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The Domes of Mars



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CHAPTER I

The Desert Range

Maurice Gray stretched himself lazily, and lay back on the couch, staring thoughtfully around at the pleasant untidiness of his room. Apartments at the Australian rocket range of Woomera were always cramped, but Maurice had never minded; to him, Woomera had been "home" ever since he had arrived there as a shy and rather nervous boy of sixteen.

At the moment the room was even untidier than usual. Most of the bookshelves had been cleared out, and the table was littered with papers, diagrams, and odd bits and pieces of radar sets, while the pictures on the walls had been taken down and stored out of harm's way. Even now Maurice could hardly realize that within twenty-four hours he would be far away—not just on the other side of the world, but far out in space, bound for another planet.

It seemed years since the end of the strange "rescue trip" when Maurice had joined with Bruce Talbot and the rocket scientist, David Mellor, in a desperate journey to Mars in an attempt to bring home the luckless survivors of the First Expedition. On that voyage every ounce had mattered, and Maurice had

taken part simply because he had weighed under ten stone, but things were different now. He was twenty; he was a fully-qualified radar engineer, and instead of being a desolate planet Mars was peopled with men. True, there were only two colonies, but inside the bubble-shaped plastic domes it was possible to breathe without using the clumsy helmets that were needed in the thin, oxygen-poor air of Mars itself, and so far as was known the "advance guard" of twenty-five scientists had met with no real trouble. David Mellor was there; so were Bruce Talbot, Professor Whitton and most of the others who had taken part in the first trips.

The door opened suddenly, and Maurice looked up in surprise. A visit from Sir Robert Lanner, Chief Controller of Woomera, was rare, since Sir Robert generally stayed in his own apartments "like a spider in the middle of its web", as Bruce had once put it. With him were Maurice's uncle, Leslie Yorke, and the Danish engineer Axel Häller, who was to lead the next expedition. Maurice rolled off the couch, and reached for his shoes.

'Don't get up,' said Sir Robert, and gave a deep chuckle. 'We don't want to disturb your last afternoon on Earth. You won't find a great deal of comfort on Mars yet, I'm afraid.' He sat down on the edge of the table, and looked at Maurice thoughtfully. 'Strange. You're still only a boy, and yet you're one of the few people to have been out into deep space. I take it that you don't feel scared?'

Maurice grinned. 'Not nearly so scared as I was last time, sir! At least I know what I'm in for.'

'I wonder,' said Leslie Yorke slowly. 'Do you really know, Maurice? Mars isn't a holiday resort. Once you start with this expedition, you'll be faced with a lifetime of hard work and precious little play. If you've any last-minute doubts, now's the time to say so.'

Maurice stared at him. 'What do you mean, Uncle?'

Yorke shrugged. 'Just what I say. The fact that you happen to be my nephew makes no difference; I'd say the same to any lad of your age who told me he wanted to spend the rest of his days on Mars. If you stay here on Earth, you'll be able to enjoy yourself like any other young man, but life on Mars is hard, dangerous and—what is worse—artificial. We want to make sure that you realize that.'

'I'm not going into it blindfold,' said Maurice cheerfully. 'The first trip wasn't a picnic, Uncle. You know as well as I do that I'd never be really happy if I had to stay on Earth. Once you've been in space, nothing else is quite the same. Besides, Bruce and David are on Mars—'

'I thought that had something to do with it,' grunted Yorke. 'The point is this, Maurice. Journeys to and from Mars aren't like twopenny bus-rides. Each one takes six months and costs millions of pounds, so that it's no use your thinking that you will be able to come home for holidays every few years. Next time you see Woomera, if you ever do, it'll be

very different from the place it is to-day, and I doubt whether many of your friends will still be here. I shan't, for one.'

Maurice bit his lip. 'That's rot, Uncle.'

'Far from it. I'm well over sixty, and unless you come back during the next twenty years, which is most unlikely, I shall be either dead or else too ancient and doddering to recognize you. Still, that's a minor matter,' said Yorke, and gave a twisted smile. 'We can at least talk to each other when we can get through on the radio, and if you've really made up your mind I'd far rather you went. You're a good radar technician, and youngsters like you are badly wanted.'

Professor Häller took off his gold-rimmed spectacles, and polished them. 'You see, we wish to—to give you the chance. There can be no mistakes, you understand. If you come with me on this expedition, you are no longer a man of Earth; you are a man of Mars, and there is no drawing back. Me, I do not expect to return, and I do not care.'

'No more do I—at least, I wouldn't care a hang if only you were coming too, Uncle,' said Maurice seriously, his eyes on Leslie Yorke. 'Why not? You've as much experience as anybody—'

Yorke shook his head. 'With my strained heart? No; I'm proud to have been on the first voyage, but I've sense enough to know when to stop. Besides, there's a great deal to be done on Earth, not all of it connected with pure science.'

'What else, then?'

'Politics,' said Sir Robert bitterly. 'Oh, I don't suppose you have the ghost of an idea of the battles we've had to fight. Space-travel costs money, and we all know it, but a statesman who is only too ready to vote vast sums for a stupid war is equally ready to cut off our own funds as soon as he has the chance. You can't colonize a planet by counting the farthings, but so many of the fools don't realize it even yet. Then there are the cranks, the people who object on religious grounds, and goodness knows who else. Still, that's none of your affair. Once you're away from Earth, you'll be away from petty quarrels too—I hope.'

Maurice shrugged. 'Lowell Dome is a pretty small place, and there are all sorts of nationalities there. They all seem to get on well enough.'

'True, but don't forget that you'll live to see Mars turn into a planet where there are twenty or thirty domes instead of only two. The water problem has been solved by tapping underground supplies, as you know, and as soon as something can be done about the air there'll be no stopping us. It'll be then that the quarrels will start,' said Sir Robert soberly. 'I'm an old man, and I know what I'm talking about. Well, Maurice, on personal grounds I'm sorry you're going; we've seen a good deal of each other, and I shall miss you. I wish to Heaven I could come too.' He looked at Häller. 'How long have we worked together, Axel?'

'Twenty years—thirty, perhaps.' The Dane smiled

faintly. 'I too was very young when I first came to Woomera.'

Maurice said nothing. He knew well enough that he had made a decision that was bound to alter the whole course of his life, and he hated the idea of saying good-bye to his uncle, but in his heart he knew that Leslie Yorke would have been disappointed in him had he taken the easy road. It was only on the following day, after he had left his familiar room for the last time, that the full force of it hit him. As he stood on the concrete road that led up to the rocket ground, taking his final look round Woomera, he could not help regretting all that he was leaving behind. It was possible that he would never again stand under the open sky and breathe fresh air.

He realized suddenly that Yorke was standing beside him, and he turned, trying to force a grin.

'Don't worry,' said Yorke lightly, his hand on Maurice's shoulder. 'Six months from now, perhaps even less, you won't care twopence for Earth or anything on it. It's a great thing you're doing, Maurice. There's a new world up there, and you're one of the pioneers. If I know young Bruce Talbot, he'll be pretty glad to see you, to say nothing of David Mellor. Somehow I've a feeling that we shall all meet again before we die.'

'I know we shall,' said Maurice stubbornly. 'Hang it all, my brain's in a mix. Uncle—'

'In your place, I'd do just the same thing,' said Yorke seriously. 'There's nothing much else to say,

I suppose. Sir Robert's not coming out; he wants to be in the control tower during blast-off, as usual. Nor am I going to shake hands in the usual dramatic fashion. Good luck.'

He walked away without a backward glance, and Maurice set his lips, turning towards the distant rocket ground.

CHAPTER II

Farewell to Earth

SINCE HIS return from Mars after the famous "rescue flight" of nearly five years earlier, Maurice had never once been up in a rocket. Flights even to the Moon were infrequent, and in any case it could hardly be said that the lunar colony had been as successful as the first explorers had hoped. There were three domes altogether, clustered on the great dry plain known by the unsuitable title of the "Sea of Showers", but they were used only as laboratories and astronomical observatories, and it was becoming more and more clear that the Moon was a world unfit for man.

Still, Maurice knew more about space-ships than most men of twice his age. The clumsy chemically-fuelled rockets used by the early pioneers such as Von Braun, Croxford and Callister had given way to atomic craft, though even now the fuel problem was far from easy. In a modern-type rocket, the bottom engine was responsible for the original blast-away; it used liquid fuels, so that it gave off no dangerous radiations which might harm those below, and at a height of forty miles it broke free and

dropped back to the ground, after which the atomic motors took over and raised the speed of the rocket to the seven miles per second needed to escape from Earth. The minutes following blast-off, when the velocity was building up, were violently uncomfortable, since the luckless members of the crew were so affected by the pressure that they could hardly breathe. Maurice had felt the crushing pressure twice, and he had to confess that he was not looking forward to a third taste of it.

He was the last to arrive at the launching site. The rocket, known officially as the E.5 but unofficially as the "Lizzie", was fully prepared, and Maurice looked at it thoughtfully. It was not much like the sleek, streamlined craft still found in the pages of novels and comic papers. It looked more like three spheres connected by a spar, rather in the manner of balls of wool upon a knitting-needle, and it seemed altogether too flimsy to be capable of crossing the millions of miles between Earth and Mars, but Maurice had no fears. It was at least better prepared than the old "Ares", which had carried him on his first flight into space. Also, he knew the crew well enough to realize that they could be trusted to deal with any emergency. As well as Professor Häller, there were two engineers, Neil McAngus and Victor Lang, and a first-class radio operator in Norman Knight, the young American who had been a member of the original expedition. The last place in the E.5 was taken by Boris Miroff,

a Roumanian astronomer, whom Maurice respected even though he found him hard to talk to.

It seemed almost like a dream as he stepped from the top of the tall, ladder-like "gantry" to one side of the space-craft into the E.5 itself. For a moment he paused, taking a last look at the Australian landscape which would soon be so far behind him, and for some reason he waved his hand, though he realized that Leslie Yorke could not see him. Then he passed into the cabin, and the airlock door closed behind him. There was something final in the soft click, and Maurice swallowed hard. This was not like last time, when he knew that he would be back within eighteen months if he lived to come back at all. This was, to all intents and purposes, good-bye to Earth.

Häller, Knight and McAngus were busy carrying out their final checks, and Miroff was lying back on his take-off couch, while Victor Lang whistled a jerky tune as he studied the various indicators. The cabin was not overcrowded, and there would be plenty of room once the couches were folded back; the central pillar contained the main instrument panels, and in the "walls" there were even some bookshelves, crammed with technical micro-films of all sorts. Altogether the curious, circular room was much less uncomfortable than might have been supposed. Since the five would have to spend all their time in it for several months, apart from occasional trips to the engine room and through the airlocks, this was just as well.

Norman Knight cocked an eyebrow as Maurice came in. 'All set, kid?'

'Kid yourself,' said Maurice, more light-heartedly than he felt. 'Want me to re-check the circuits?'

'You'd better,' drawled Victor Lang. 'Trust these Yanks to join some of the wires the wrong way—and it's no good asking Scottie for any help; he's too busy working out how he can set up a haggis plant on Mars.'

McAngus glared. 'That I am not, man. I do not eat haggis, and there is no such thing as a haggis plant—'

'There speaks the brave Scot,' said Knight admiringly. 'I thought all you wild cave-men had haggis for breakfast, haggis for lunch and haggis for supper. Any last-minute orders, Professor?'

Axel Häller gave his slow smile. 'But no, my friend, I think not. All is as well as we can wish. Let us hope that we will meet with the good fortune. You will please take up your positions. We are to make the start in—let me see—in twenty minutes, and there must be no mistakes.'

Those last few minutes seemed to race by. Apart from Miroff, each member of the crew had his own tasks, and Maurice worked mechanically, his thoughts far away. He had practised the drill so often that he felt that he could hardly make a slip now, but nothing could be left to chance, and it was almost a shock when he heard Häller say:

'Three minutes only. Please to strap down.'

Maurice went to his couch, lay back, and pulled the straps over him, tightening them until he was held so firmly that he could move only his arms. Then he pulled the instrument panel across him, and put on his earphones. Though Knight was officially in charge of communications, he felt that he would like to hear what was going on; perhaps Sir Robert would send them a final message. Almost at once he heard Chief Controller's voice above the soft crackle.

'Controller calling E.5. Controller calling E.5. Are you receiving me? Over.'

Knight replied. 'E.5 answering. Is all in order? Over.'

'Controller answering. You are prepared for blast-off. Good-bye, and good luck.' There was a pause, and then another voice: 'Yorke here. Good luck, Maurice—good luck, all of you.'

Maurice made some sort of a reply, his heart beating violently. It was strange to think that years, at least, must pass before he saw his uncle again, but there was no time for any last-minute qualms. He could hear the familiar take-off procedure. 'Blast-off in sixty seconds . . . X minus 55 . . . X minus 50 . . .'

'All set,' said Knight quietly. 'Now for it, boys. Mars, here we come!'

Miroff muttered something, and Häller looked quickly round the cabin. The five men lay tense and expectant, headphones in position as they waited for the signal that would send them skyward at a speed of seven miles per second. 'X minus thirty . . . X

minus twenty . . . ten . . . eight . . . six . . . four . . . two . . .'

Maurice gripped the sides of his couch. He heard the command 'Fire', and the rocket seemed to shudder on its base, while a deep, throaty roar came to his ears as the chemical motors started up. For the moment he could feel no pressure, but he knew only too well that it would come with terrifying suddenness. Gradually the roar grew to a high-pitched scream, and he began to feel himself forced back on to his couch, fighting for breath, with his arms hanging downwards as though made of lead. Five years ago he had been unprepared, but now he knew what was in store for him, and the knowledge seemed to make it even worse.

Whine—scream! Maurice choked, and tried to stir, but he was unable to move a muscle. His chest felt as though it were being crushed by iron bands, and a red mist danced in front of his eyes. He gave a cry of agony, and panted desperately . . . How long now? In a few minutes he must lose consciousness. Whine—scream! Then there was a violent jerk, and for one blissful instant the pressure eased as the bottom "step" of the rocket broke away, to plunge back and smash itself against the hard sands of the Australian desert. Then the pressure built up again, until Maurice's lungs felt as though they must burst.

He heard Knight calling out the instrument readings, while Häller answered in a painful croak,

but the mist was overcoming him now, and the redness was merging into black. Maurice gave a last gasp, and relaxed, conscious of pain even though he was helpless both physically and mentally. The next few moments were a blur, and then, abruptly, the pressure vanished as suddenly as it had come, while the whine of the atomic motors died away into nothingness. The silence that followed was almost frightening.

'Wh—oof!' breathed McAngus, as the Scottish engineer fumbled clumsily with his straps. 'Man, I wouldn't want to go through that again. Och, Victor, are ye still alive?'

'Just about,' muttered Lang. 'My stars! I feel as though I'd been put inside a trouser-press and squeezed flat. I thought the gravity-chambers back at Woomera were bad enough, but they were kid's stuff compared with this lot. I reckon it'll have taken the stuffing out of your bagpipes, Scottie my lad—'

Maurice sat up. Now that they had broken free from Earth, and were speeding along in the condition of "free fall", all sensation of weight had vanished, and for the moment he felt terribly sick. He swallowed hard, and fought against it. After all, only he and Knight had been out in space before, and it would be horribly undignified to be ill now, particularly as he had prided himself on being one of the most experienced members of the crew.

'Please to remain in your couches,' said Müller



quietly. 'Remember, we have lost our weight, and to make the sudden movements is dangerous. Mr. Knight, you will perhaps show us.'

Knight grinned. 'Reckon I don't feel much like moving, but I'll show you some of the tricks.' He eased himself off his couch, letting his straps loose, and gave himself a gentle push. 'See what I mean? If you go about it too fast, you'll be bound to whack yourself against the wall, and if you put out a hand to stop yourself you'll break your wrist. Watch.'

Slowly he rose into the air, for all the world like a magician's dummy, until he reached the "ceiling". Then he turned cautiously round, and stood upright with his head pointing "downwards" towards the couches. Maurice gulped. He had been through all this before, but not for the past five years, and it was difficult to adjust himself to the odd fact that "up" and "down" had ceased to have any meaning. He remembered what David Mellor had told him before the first flight. 'When I put a penny on top of a card and let the card drop, the penny stops pressing on the card as they fall, because they're moving at the same speed in the same direction. When you're in a spaceship in free fall, you and the ship are moving in the same way, so that you won't press on the ship any more than the penny pressed on the card.' Even though the E.5 was still only a few hundreds of miles from Earth, Maurice's "weight" had vanished completely, though his mass,

or the amount of matter in his body, remained the same.

Knight reached for a pair of iron boots that had been fastened to a shelf, and slipped them over his shoes. 'These will do the trick,' he said. 'They'll keep you clamped down to the magnetic strips in the floor and walls, so that you won't go shooting about the cabin. All right, Professor?'

Häller nodded. 'But yes. We must make the practise until we are—how you say?—space-toughened. After all, we have plenty of time.'

'Six months,' said Miroff suddenly. It was the first time that he had spoken since Maurice had come into the rocket; his voice was deep and strong, with a pronounced foreign accent. 'Ach, there will be little to do.'

'Don't you believe it,' said Lang, and pushed himself gingerly upwards, reaching for a pair of iron boots. 'All very well for you, Doctor, but we're the labourers on this trip. Ready to start the checks?'

'Please,' said Häller. 'Mr. Knight, you will perhaps make a call to Base, and Mr. Gray will attend to the examination of all radar circuits. Myself, I will make sure that the atomic drive is undamaged.'

Maurice grunted, and stretched his aching body. Lang was right; there would be plenty to do, and for the moment, at least, there was no time to daydream. Earth was far away now, but Mars was waiting, and on the whole he had few regrets that he was changing his loyalty from one world to another.

CHAPTER III

A Warning from Mars

ONE OF the things that Maurice felt that he would never get used to in space was the absence of true "day" and "night". Sleep came easily enough, and the lack of weight was not particularly uncomfortable, but it was only too easy to lose all track of time. Once, Maurice woke after a spell off duty and unshuttered the observation window, expecting to see the Earth looming below as a huge ball. Instead, it was a pitifully shrunken disk upon which only the land mass of America and the outlines of the great seas could be made out, and Maurice realized with a shock that they had been in space for a full fortnight judged by normal standards.

Victor Lang joined him by the window, standing upside-down on the far wall so that his head was close to Maurice's. 'Some sight,' he said quietly. 'It's all very well for you, but I've never been out as far as this. I wonder if we'll ever go back home?'

Maurice shrugged. 'What do you mean by "home"? This time next year we'll probably be thinking of Mars as "home", if what Sir Robert said

is true. I don't think I mind much. Apart from my uncle, I've no ties on Earth.'

'Nor have I, or I wouldn't have come,' said Lang. 'It took me all my time to make the break, though. I reckon we'll spend the rest of our lives under domes or inside tin suits.' He paused. 'I've heard a lot about the Martian bases, but I'm darned if I can really picture them yet.'

Maurice pulled a piece of paper from his pocket, and smoothed it out. 'I'm not much of an artist, but I've sketched that as well as I can from the description Bruce sent me over the radio. It's meant to be Lowell Dome, of course. Pickering Dome is a lot smaller, and I don't believe it's anything more than a small research base in the desert.'

Lang stared at the skilfully-drawn picture. It showed a flattish landscape, from which rose what looked at first sight like a large air-bubble, stretched tight by the pressure inside it, and fitted with double doors making an effective air-lock. Actually, first impressions were more or less correct. The bubble was made of tough plastic, semi-transparent and perfectly airtight, while the "atmosphere" inside was made up chiefly of oxygen and helium gases, both of which had to be renewed by special machines. The gravity of Mars was lower than that of Earth, and the air-pressure inside the domes could be lower, but the colonists could at least live and work without having to keep on their cumbersome helmets. Also, the temperature was carefully regulated.

'Not bad,' said Lang slowly. 'You'd have made a decent engineer if you hadn't made up your mind to mess about with radar circuits. Where's your pal Mellor, by the way? Inside Lowell Dome?'

Maurice nodded. 'Yes. He went there eighteen months ago, and he's second in command to General Jackson. Bruce Talbot is there, too. I wanted to go with them,' he added with a grin, 'but Sir Robert reckoned I was too young to make up my mind, so I had to wait the extra year. It'll be good to see them again.'

'I suppose it will,' said Lang. 'You'll have to introduce me—though since there are less than thirty men on all Mars I suppose everybody is bound to know everybody else. I wonder why the two bases are called "Lowell" and "Pickering"? I suppose there must be a reason for it.'

Maurice laughed. 'I can answer that one. Lowell and Pickering were two American astronomers who died years ago. They spent most of their lives studying Mars, and Lowell thought that the "canals" were real waterways, dug by Martian engineers to carry water from the poles to the equator. Pity he was wrong.'

'I guess a few Martians might liven things up,' said Lang dryly. 'Well, I suppose there's always the chance that we shall come across something we don't expect, just as you did on the first trip.' He lowered his voice. 'What do you make of old Popoffski?'

'Miroff, you mean?' Maurice looked down at the

slumbering astronomer. 'I don't know what to think. He's a funny chap, but I suppose he's clever.'

'Funny peculiar, not funny ha-ha,' grunted Lang. 'I think he's a bad-tempered bear, and I don't mind if he hears me say so. I only hope he doesn't make trouble. We're still at the beginning of things, and we don't want men like Miroff on Mars.'

It was true that the Roumanian scientist had made no attempt to be friendly, and Lang's well-meant efforts to draw him out had been coldly ignored. To make things worse, Miroff was always ready to take offence, and on more than one occasion Axel Häller was hard pressed to keep the peace. There was, for instance, the affair of the bagpipes. Maurice often chuckled about it later, but it did not seem amusing at the time.

It was about a month after they had blasted off, and they were in deep space, with the Earth now little more than a point of light and Mars an even smaller point, hard to distinguish from the background stars. All seemed to be well; messages from Woomera came through frequently, with Knight and Maurice taking alternate spells on the radio, and now and then there was even a brief signal from Mars, though as yet the E.5 was too far away to receive complete messages. There was plenty of routine work, but there were also long spells when there was nothing to do, and somehow there was an uneasy tension which had certainly been absent on Maurice's

first trip. Neil McAngus, fiercely proud of his Scottish birth, had brought with him a set of miniature plastic bagpipes, which weighed almost nothing but which could be blown up and used to make a noise which Knight described as a cross between a cat-fight and an air-raid. Since McAngus clearly thought that he was giving pleasure to his companions, his bagpipe recitals were usually born with noble calm, but on one occasion Miroff exploded.

'Please to stop!' he shouted, above the uproar as McAngus filled his lungs before giving a fresh blast. 'It is too much. Ach, I am deafened!'

'What was that?' bellowed McAngus. 'What did ye say?'

'He told you to stop!' roared Lang in his ear. 'You know—quit. Cease.'

McAngus frowned. 'And why, may I ask?'

Miroff waved his arms. 'Because it is—it is an unpleasant noise, and we do not like it. It is too much.'

McAngus gave him a glare, and then, deliberately, raised the bagpipes and began to play a tune that could just be recognized as the Roumanian National Anthem. Lang and Knight chuckled, but Maurice caught the look on Miroff's face, and he did not like what he saw. He whispered in McAngus' ear:

'Stop it, Neil. You'll make him really mad if you play that. It's not worth it.'

McAngus looked from Maurice to Miroff, and the bagpipes died away in a gasping wail. Miroff clenched his hands.

'It is as well,' he said in a choked voice. 'You insult me, my friend, and I like it not. You will please remember your manners.'

'You—' began McAngus hotly, but Miroff had turned away, and was staring out into space through the unshuttered observation window. There was an uncomfortable silence, and then McAngus gave a grunt and threw away the bagpipes before swinging himself through the door to join Häller in the engineering room. It was unfortunate that the bagpipes settled on Miroff's couch, and even more unfortunate that the astronomer did not notice them. When he lowered himself on to the couch some minutes later, forcing himself down by gripping the central pillar, there was a loud, scornful noise as the last of the air rushed out of the plastic bags.

Miroff shot upwards as though he had been stung, and before he could stop himself he had collided heavily with the pillar. For a second he hung there, and then broke into a violent torrent of speech, his face twisted with fury.

Norman Knight gave a snort of laughter, but Maurice was not amused, and he felt glad that McAngus was still in the engine room. For several moments Miroff and Häller spoke in a language that Maurice could not understand, and at last Häller managed to soothe the astronomer's ruffled feelings,

but from then onwards Miroff and McAngus spoke to each other only when they had to.

Miroff had no set duties, and he spent many hours outside the E.5, busy with his cameras and recording instruments. Generally one member of the crew was detailed for "alarm watch", since there was always the chance of some sudden emergency, but as the weeks passed and the journey remained uneventful the rule was more or less ignored. On one occasion when Maurice handed over the radio to Knight after managing to send a routine message to Woomera, the American gave a yawn and shrugged his shoulders.

'What now? We still can't contact Mars properly, and there's no reason to call Earth again for hours. I wish we could find out some way of cutting out that solar noise. It's almost as bad as Scottie's bagpipes.'

Maurice nodded. The crackle in the radio caused by the short-wave radiations sent out by the Sun was strong at any time, but recently it had seemed even worse than usual. 'So do I. I feel about done in—I think I'll get some sleep.'

Knight sat down at the radio, and Maurice strapped himself lightly in his couch, stretching himself and closing his eyes. In a few minutes he was sound asleep, and there was silence in the cabin as his companions slept also.

Maurice was not usually troubled by dreams, but after a time he began to twist and turn so that only his strap prevented him from sailing up from his

couch. He seemed to be back in Woomera, sitting inside a gravity chamber with Mellor and Yorke, testing the results of a violent blast-off. There was pressure on his chest, and he panted helplessly. Then the scene changed; now he was on Mars, penned inside a dome which was gradually collapsing on top of him until he was being pressed against the ground. . . . He could not breathe. He struggled and fought, and still the pressure grew, so that he cried out. Then, suddenly, he was wide awake. It was no dream—he really was choking, and his friends looked horribly still, their breath coming in short gasps.

Maurice gulped, and fumbled with his strap. He stumbled up, swung himself across the cabin and stared at the pressure gauge. The atmospheric density was far below normal, and the dial indicator seemed to be moving almost visibly as the air leaked away. What was wrong? Was it some complex breakdown, or had something happened to the hull?

Desperately Maurice bent down and shook the nearest body, which happened to be Knight's. The American twisted beneath his straps, and his eyes blinked open.

'Air!' gasped Maurice. 'Norman, the pressure's going. I believe it's a meteor—'

Knight wheezed painfully, and struggled for his iron boots. 'My—my stars! Get busy—we can't have much time!'

Maurice knew all about the danger from meteors,

small pieces of solid material revolving round the Sun like tiny planets. Most of them were too small to penetrate even the outer skin of a metal hull, but a piece of rock the size of a tennis-ball would go clean through, leaving a gaping hole which even the automatic sealing device could not plug. It was true that meteors the size of tennis-balls were so rare that there had never before been any trouble from them, but it was hard to see what else could have happened, and the air-pressure was still falling with grim steadiness. Maurice's lungs felt at bursting-point as he swung himself towards the engine compartments, Knight close behind him. Häller and Lang were stirring now, but there was no time to explain.

The first compartment seemed intact, but there seemed to be a slight draught that was certainly not normal. It came from the second engine-room, and as Maurice swung through the doorway he could see in a moment where the trouble lay. There was not a single hole; there were two—one in each wall, and he could hear the soft hiss as the air rushed away. The pressure in here was so low that breathing was almost impossible except in short gasps, but there was no time to fetch oxygen helmets. If they were to save themselves, they had to repair the leaks in a matter of seconds.

'This one first,' choked Knight, plunging towards the larger of the holes. 'Get the stuff on while I do the sealing. Don't—'

He broke off, gasping painfully, and the two

worked like demons to stop the rushing air. There was nothing difficult in sealing the hull; a temporary repair could be carried out in a very short time, but both Knight and Maurice were so dazed and bewildered that they could neither see straight nor hold their equipment properly. It seemed an age before the hole had been sealed, and still the pressure fell as the air hissed and swirled towards the opposite wall.

Knight plunged upwards. 'Must get oxygen. We—'

'No time,' gasped Maurice, and forced himself towards the second hole. 'Hold your breath—'

Knight gulped, but somehow managed to swing himself back to the wall. The second hole seemed even worse than the first, and Maurice's eyes blinked as he tried grimly not to faint. One minute the hole looked like a tiny pinpoint, the next it was a gaping tear that seemed to twist about as though it were alive . . . Now the first stop was in place, and the hissing died away. With a last effort Maurice rammed the second stop well home, and then he went limp, a wave of blackness sweeping across him as the bands on his chest tightened.

He came to after only a few seconds, to find himself lying flat on his couch with Häller, Lang and McAngus clustered round him. Maurice blinked stupidly.

'Poof! what happened?'

Häller looked serious. 'A thing we should have

foreseen, my friend. We were struck by a meteor. Ach, we did not hear it, but it went straight through our walls like a bullet going through paper, and since we had been stupid enough to leave open the connecting doors the pressure was quick to fall. But for your waking, we should never have known.'

Maurice shuddered. 'My stars! How close was it?'

'Closer than I like to think,' muttered Lang. 'When you woke me, I managed to get to the air control and switch to full oxygen. Even then I was only just in time. Another two minutes, and we wouldn't have had a hope.'

Maurice sat up. His head ached furiously, and he still felt fuddled and confused, but he could tell that the air was oxygen-rich and almost back to normal. 'Norman——'

'I'm O.K.,' said Knight briefly. 'I was almost at my last gasp, though.'

'So were we all,' said Häller, and fiddled with his spectacles. 'Maurice, it is best that you should rest. I will give you an injection.'

'No need,' protested Maurice. 'We'd better keep a watch after this. I don't want another dose.'

'That we will do,' Häller promised him grimly. 'I blame myself. I should have made sure that this did not happen, and we cannot hope to be lucky a second time if we do not take precautions.'

Maurice felt too dizzy to argue when the Dane bent down and gave him an injection in his arm, and

he lay back on his couch, drifting into a peaceful sleep instead of a troubled nightmare. By the time he woke, Lang and McAngus had sealed the two holes so firmly that they were as strong as the other parts of the hull, and from then onwards Häller made it a firm rule that at least two members of the crew were always awake and alert. Miroff was left out of the duty rota, by general though unspoken agreement. The astronomer seemed even more surly and aloof than he had been when the journey started, and Maurice's respect for him was turning into definite dislike.

The affair of the air-leak was the only "excitement" for a full three months, even though it was the sort of excitement that all of them could well have done without. Now that they were so far from Earth, communication with Woomera had become difficult and uncertain, while the radio stations in the Martian domes were still too weak to make themselves heard except very occasionally. The trouble lay, as Maurice knew, with the strange "Violet Layer" in the atmosphere of Mars. It was highly magnetic, and it distorted wireless waves so badly that even Morse was usually unreadable. For brief periods it cleared away, but one could never tell just when these periods would come, and short of keeping a constant radio watch there was little that could be done about it. It was the Violet Layer, too, which had caused the first expedition to meet with disaster, and had nearly wrecked the second expedition as well. Now, for-

tunately, means of overcoming that danger had been found, but Maurice still thought of the Layer with deep distrust.

It was during one of Knight's spells at the wireless that the message came. Solar crackle had been less intense than usual, and since this often meant a brief clearing of the Violet Layer the two radio operators had been taking turn and turn about at the receiver in the hope of hearing something from Lowell Dome. Miroff was outside, as usual, busy with his cameras, while McAngus was asleep and Lang carrying out a routine check of the engines, though since the journey to Mars was being carried out under conditions of "free fall" it would be some months yet before the atomic motors would be needed. Suddenly Knight gave a sharp exclamation.

'Hallo! I believe we're getting through.'

Maurice and Häller reached for the spare earphones, while Victor Lang swung into the main cabin. 'Lowell Dome?'

Knight nodded, and pressed the Morse key. 'Sounds like it. The Layer must have cleared back, I guess. Wait.'

Maurice could hear the faint dot-dash signals now, and he strained his ears in an effort to read the distant Morse. It swelled and faded, but it was audible enough, and he began to jot down the message, wondering whether Mellor was on the transmitting end. Then he tensed. Was he dreaming—had he made some appalling mistake? He looked up at

Knight, and saw that the American too was staring blankly at the wireless set.

'Lowell to E.5,' he read slowly. 'Lowell to E.5. Do not proceed. There is danger. You cannot help us. Return to Earth. Repeat, return to Earth!'

CHAPTER IV

The Silent Planet

HÄLLER MUTTERED something in Danish, while Knight gave a long, low whistle and looked helplessly around him. Lang gripped Maurice by the arm.

‘What’s wrong? What is it?’

Maurice stammered. ‘It—it’s a message telling us to go back. Try and get them again, before the crackle starts up!’

Norman Knight set his lips, and tapped the key. ‘Message received, but not understood. What is wrong? Over.’

There was a long pause. They were still millions of miles from Mars, and even though radio waves moved at the speed of light, a hundred and eighty-six thousand miles per second, it still took some minutes for the signal to reach the operators at Lowell Dome. But the minutes passed, and there was no reply. Knight repeated his message, but still without result, and Maurice’s heart thumped. Miroff and McAngus swung into the cabin, and as Lang told them what had happened even Miroff’s expression changed from unfriendliness to concern.

'I don't get it,' muttered Knight, after a silence that seemed endless. 'Confound it all, are they dead, or just plain crazy? Come on, you loons—answer!'

'There must be some good reason,' said Axel Häller quietly. 'It is perhaps that there has been a mistake—that the message did not come from Mars?'

Knight shrugged. 'Where else could it have come from? It wasn't the Woomera wavelength, or anything like it, and we couldn't possibly pick up any of the transmissions from Schröter Dome on the Moon. No, it came from Lowell all right. You can bet your bottom dollar on that.'

'Keep on trying,' said Victor Lang, his voice strained. 'Hang it, I wish we had some more headphones. What's the solar crackle doing?'

'Making the dickens of a hiss, as usual, but nothing more,' said Maurice, and handed Lang his earphones. Anxious though he was, he felt that his head would split if he had to go on listening to the noise. 'Can you hear anything else?'

Lang grunted. 'Not a squeak. How long would it take the radio waves to get to Mars and back?'

'We're a full forty million miles off yet,' said McAngus, and made a quick calculation. 'That means about four minutes, so far as I can work it out in my head, and another four minutes back. Nine minutes would cover it easily. How long now, Norman?'

'Over a quarter of an hour,' said Knight grimly, and pressed the Morse key again. 'I'll sit here until

I do hear something. One of you had better keep on the other 'phones, in case I miss it.'

'I'll take first go. After all, I'm meant to be a radio man,' said Maurice, and reached out to take the headphones from Lang. 'I didn't hear the first bit of the message, but I suppose there wasn't any clue as to who sent it?'

Knight shook his head. 'No, it just said "Lowell to E.5". It might have been David himself, but it might have been any operator. There's no means of telling, and one sender's Morse is just like another's. Keep quiet, for goodness' sake, or I shan't be able to hear a thing. I believe this infernal crackle's getting worse again.'

The next few hours seemed to drag by. After a while he handed over to Lang, and then Häller himself took a turn, while Knight sat stubbornly at the radio set and refused to move. McAngus vanished into the engine compartment, and Maurice guessed that he was making a thorough check of the circuits in case they had to use the motors earlier than they had expected. At last Häller gave a shrug, and tapped Knight on the shoulder.

'It is of no use for the moment,' he said quietly. 'The solar noise, it is deafening. I think that the Violet Layer must have formed again on Mars, so that for now we can do little. Well, my friends, what is it to be? Do we go on, or do we take the advice we have been given?'

Maurice stared at him. 'Turn back, you mean?'

But we can't—we haven't enough fuel, and it would be hopeless to try to put ourselves into a new orbit.'

'It is true that the calculations would take many hours, and it is perhaps that we should fail,' said Häller seriously. 'To turn a space-craft in its path—ach, that is most difficult, and never has it been attempted. It would be easy for us to make a little mistake, and if so we would never reach either Earth or Mars. Yet once we land, it will not be possible for us to blast off once more without checking and refuelling. If we are to act, it must be now.'

Knight gave a twisted grin. 'We'd be a yellow lot, and no mistake. We've got friends on Mars, and I reckon it would be up to us to go on even if we knew we wouldn't get home again. Besides, we haven't a clue as to what the trouble is.'

'That is true, but the silence is not pleasing,' said Häller slowly. 'No, we must face the facts. Some disaster has happened upon Mars, and if we land there we will do what you call putting the head into the spider's lair.'

'Don't you mean the lion's mouth?' said Lang, and chuckled. 'Norman's right, Professor. We can't turn back now. Anyhow, I doubt whether we could manage it even if we wanted to.'

Häller turned towards Maurice and McAngus. 'And you, my friends? What do you say?'

'Speaking as an engineer,' said McAngus gruffly, 'I

say we'd be crazy even to think of changing our course. Och, we're wasting our breath. We all know we won't turn back, so what's the use of arguing?"

'One moment.' Miroff thrust forward, and his iron boots clattered on the metal strip. 'I think you are wrong. We have had a clear warning, and it would be possible to put our ship into a return orbit provided that we do not delay. Our duty is to return to Earth, and tell them what we have heard.'

'Perhaps you'd like to make the calculations?' said McAngus dryly. 'I tell you it can't be done. We'd be left spinning round the Sun like a chestnut on the end of a string, and frankly I don't fancy it.'

Maurice broke in. 'All very well, but what about Mellor, and Bruce Talbot, and all the rest of them? It won't be the first time we've taken a gamble.'

'A gamble?' said Miroff, and gestured. 'It may be that we of Earth are not destined to conquer other worlds. Perhaps this is a warning to us. I still say that we should turn back.'

Axel Häller blinked behind his gold-rimmed spectacles. Despite his mild manner, the Danish scientist led the expedition in fact as well as in name, and once he had made up his mind he would not allow himself to be over-persuaded.

'I think we are agreed, Dr. Miroff,' he said, in even tones. 'As an engineer, I too feel that we would have little hope of returning to Earth, and I do not feel that we should try. Even if we can be of no help,

it is our duty to reach Mars and find out what has happened to our friends. It is clear that we must keep a radio watch all the time, and we must try to call Woomera, in case they have heard more. You are ready for the first spell of duty, Mr. Knight?"

"I guess so," said Knight wearily. "I don't think for a moment that anyone down at Woomera will have heard that Morse, and I doubt whether the receivers in Lowell could pick up ours, but I'll do my level best. You'd better stand by, Maurice."

"I object!" Miroff thumped the wireless table. "This is madness. To go on to Mars—ach, it is the act of fools."

"Perhaps we're all fools, then," said McAngus shortly. "If you like to make the calculations for a change of orbit, you're welcome—and you can put on a vacuum-suit and take a running jump out of the airlock for all we care. Don't let us stop you."

Häller gestured. "This will do no good. We must forget our differences, all of us. Dr. Miroff, you will I am sure accept my decision as leader?"

"I have no choice," said Miroff grimly, "but I still say that it is mad. If we land on Mars to find that it is a planet of dead men, what then?"

"Then," said Knight, "we'll at least have the satisfaction of finding out how they died. Let's hope we get something more from the radio."

Maurice prayed that at least some signal would come through, but as the hours passed he began to lose hope. Try as they might, neither he nor Knight

could make out the slightest flicker above the background of solar noise, and at last they changed over to the Woomera wavelength. Here too they met with no success, and it was not for a full Earth week that they managed to re-establish contact with their home planet. Even then the Morse was feeble and broken, but one thing was painfully clear: the Woomera operators had heard nothing from Mars, and they were even more bewildered than the crew of the E.5. Nothing was said about a return, and even Miroff seemed to have resigned himself to travelling onwards. McAngus amused himself by calculating a fresh orbit, but after several days of hard work, during which he spent hours on end covering page after page with figures, he announced that even though their journey to Mars was not yet half over they had too little fuel reserve to attempt anything of the kind. Atomic motors were powerful, but they were not all-powerful, and the E.5's resources were strictly limited.

Maurice felt desperately miserable. For one thing, he felt strangely alone; he liked Knight, McAngus, Lang and Häller well enough, and Miroff could be ignored, but his thoughts were never far from David Mellor and Bruce Talbot, somewhere on Mars and probably either dead or in danger. He spent most of his time at the radio set, listening to the solar crackle and hoping for a signal, and periodically he put on his vacuum-suit and went out into space. Usually either Lang or McAngus came with him,

and in spite of his anxiety Maurice never tired of the sight. He could never quite recapture the thrill of his first venture five years before, when Bruce had drifted away and had so nearly met his death, but there was always something new to see.

Modern space-suits were not in the least like the flexible, fishbowl-helmeted designs of the old books. They took the form of metal cylinders, with mechanically controlled arms and legs, and they were fully pressurized, as otherwise the luckless wearer's blood would have boiled inside him and killed him in a matter of seconds. Entry and exit from the ship were made by means of double airlocks. Once the inner door was sealed, the air inside the compartment could be pumped back into the main hull, after which the outer door could be opened in safety, while there was an automatic device to make sure that the two doors could never be open at the same time. Stepping into space sounded risky, but actually it was perfectly safe. Ship and man were moving in the same path at the same speed, and so they could not drift apart, though Maurice was careful not to go outside without making sure that his life-line was firmly fixed.

Gradually Mars changed from a starlike point into a tiny disk, ochre-red in colour and very different from the bluish green of Earth. After some weeks, the whitish ice-caps covering the poles could be made out, and then the largest of the dark patches which

indicated the areas covered with the strange, moss-like vegetation. As the weeks passed, Maurice started to make out the familiar shapes. There was the Mare Acidalium, north of the equator; there was the ochre desert of *Æria*, and there too was the patch of the Syrtis Major, where Lowell Dome had been built. Bruce and Mellor were there, if they still lived.

'Kind of strange, isn't it?' said Knight on one occasion, when he and Maurice were outside together while Häller took over the radio for a spell. 'Last time, you were out to rescue your uncle and Prof. Whitton and me; this time, you don't know what the blazes you're in for. Mars must be a hoodoo planet so far as you're concerned.'

Maurice grunted. 'I only hope we're lucky again, that's all. At least we won't have to bother about the Violet Layer, if Häller's screens are as good as he thinks.'

There was a pause, and Maurice swung himself round, staring at the blackness of space. The stars were hard, steely points of light, and he could recognize the well-remembered patterns of Orion and the Great Bear, while the Earth and its Moon shone dimly across the millions of miles. Knight and Maurice were on the shadowed side of the E.5, and the Sun was hidden, though they could see the filmy rays of the surrounding "corona", or pearly gas, stretching across the sky. Mars was a true globe now, and he could even make out the two tiny pin-points

of light that were its two dwarf moons, Phobos and Deimos. There had been a plan to build a refuelling base on Deimos, he remembered, but what would happen now it was impossible to tell.

'Where's Pickering Dome?' said Knight suddenly. 'I know Charles Whitton's there, and I believe he's got some sort of a scheme for a hydroponic farm, but I'm not too certain.'

Maurice turned. 'Hydro—what? What the dickens is that?'

'Hydroponic farm? You know—they hang their plants in nets, and feed 'em by running liquids underneath them,' said Knight. 'It's the only kind of farming we'll ever be able to do on Mars, unless we can find out more about that mossy stuff. If anyone can do it, Whitton's the man.'

Professor Whitton had said something of the sort just before he had left with Mellor on the fourth expedition, though for the moment Maurice had forgotten it. Somehow he had never come to know Whitton as well as the rest of his old companions; the biologist was not a talkative man, and he was given to keeping his feelings to himself. Nor did he really like working as a member of a team, and it was easy to understand why he had decided to experiment from the smaller Dome instead of staying with the main colony at Lowell.

Maurice sighed. 'Pickering's over a hundred miles from Lowell, and I believe it's right in the desert. I suppose we'll find out more if and when we

land. Miroff may be right; we're probably putting our heads into a noose, but we've no choice.'

'No,' echoed Knight. 'We've no choice, and at least we'll put up a fight if we can.'

CHAPTER V

Across the Wilderness

M^{AURICE} YAWNED and slipped off his headphones, rubbing his eyes wearily. He had been sitting at the radio table for more than three hours, and he felt that a minute more of the ever-present crackle would drive him mad.

‘Still nothing?’ said McAngus quietly. He and Maurice were the only two in the main cabin. Miroff was taking his last astronomical photographs from outside the E.5, and Häller and Lang were carrying out an extra check of the motors, while Knight was busy in the storage compartment.

Maurice shook his head. ‘Not a squeak. Hang it all, though, we’re only a few hundred thousand miles from Mars now, and we ought to be able to pick up their signals, Violet Layer or no Violet Layer.’

‘Violet Layer?’ said McAngus, and grunted. ‘Man, I’m no astronomer, and though you’ve been jabbering about this precious Layer of yours ever since we started out I still don’t know what it is. Is it a blue fog, or just a mist like those we get in the Highlands?’

Maurice chuckled. ‘It doesn’t look violet, if that’s

what you're getting at. Actually, one can't see it at all except in special photographs. It's a layer of atmosphere that seems to be strongly magnetic, so that it blocks out all radio signals for most of the time. It upset the first two expeditions, as well, and we were lucky not to be more badly knocked about than we were.'

'What about landing, then? Do you reckon we'll meet trouble?'

'Not now. We've built some magnetic screens,' said Maurice. 'I'm not too sure how they work, but they seem to be all right—at least, the last two expeditions have gone clean through the Layer without any difficulty. How long now?'

'A few hours,' said McAngus shortly. 'You've been on duty for too long, and you know it. Get some rest while you can, and I'll take over the wireless.'

Maurice grinned. 'How about your Morse? Do you think you'd be able to take down a message if it came?'

'Maybe not, but I'll wake you soon enough. If you don't do as I tell you, I'll play you "Annie Laurie" and "Glasgie Belongs to Me".'

'Horrid thought,' said Maurice. Since the Miroff affair, months before, McAngus had been less inclined to inflict the bagpipes upon his long-suffering companions. 'All right, then. Shake me if you hear so much as a twitter.'

He strapped himself down on his couch, while McAngus pulled the earphones clumsily over his

head. Maurice had been so keyed up that he had not realized how tired he actually was, but they were almost at the end of their journey now, and there was little more that could be done until the start of the difficult, dangerous landing manœuvres. Last time he had been outside the E.5, Mars had appeared as a vast globe shining with a brilliant ochrey light that lit up the metal hull and made it shine; Maurice had even fancied that he could make out the cluster of domes, though he knew that he was probably drawing on his imagination. Deliberately he forced his fears from his mind, and soon he drifted into an uneasy sleep.

It seemed only a few minutes before he woke, with a start. Häller was standing over him, and as Maurice blinked his eyes open he saw that Miroff was strapped down, while Knight had arranged the radio panel and was sitting with his fingers touching the controls. Maurice stretched.

‘Ouf! Sorry—I didn’t mean to go dead away like that.’

‘It is just as well,’ said Häller. ‘I think there will be little rest when we have landed, and you are young, so that you need the sleep.’ Maurice felt annoyed; he was twenty now, and it irritated him to be treated like a small boy, especially when he was one of the few with previous experience of conditions on Mars. ‘We have four minutes. You are prepared, gentlemen?’

‘All set,’ growled McAngus, and Lang and Knight

nodded silently. 'How close do you reckon to judge it?'

'A few miles. It is not easy without the guiding signals from Lowell Dome,' said Häller, and settled himself in his couch, drawing the straps tight. 'We must trust only to our own radar, as the first expeditions had to do. The readings, if you please.'

Knight and Lang rapped out a stream of figures, and Häller studied the dials closely. Maurice knew what was going on. They were only a few miles above the fringe of the outer atmosphere, and to plunge into it at their present speed would have meant instant death; the E.5 would have rubbed against the air-particles so violently that it would have become hot enough to melt. The rocket was already turned so that the exhausts were pointing towards the ground, and when the motors were fired the fall would be checked, much as the forward motion of a liner can be checked by reversing the spin of the propellers. The whole manœuvre called for split-second timing, and a single mistake would be fatal.

'It is madness,' said Miroff suddenly. 'We will go to our deaths. Häller——'

'If you don't keep quiet,' snarled Knight, 'I'll wrap you up in Scottie's bagpipes and stuff you through the air-lock. Readings, Professor?'

Häller nodded, and again Knight rattled off a string of figures. The Dane's hand hovered over the controls, and Maurice clenched his fists. Last time he

had been too busy to be frightened, but now he could do nothing to help, and he was not ashamed to admit that he was badly scared.

Häller's hand dropped, and the atomic motors came to life, giving the dull roar that had not been heard for the past six months. Gradually Maurice felt himself pressed down on his couch; "weight" was returning, and although it was mild compared with the crushing force of blast-off it was enough to make him gasp. He heard Knight calling out, and he could see that the distance register indicated a height of less than a hundred miles. The E.5 lurched perceptibly, and Maurice gulped.

'Eighty miles,' said Häller, half to himself. 'It is well. In a few moments, we shall enter the Layer. Be ready.'

Maurice tensed. Above the roar of the motors he could hear a faint hissing sound, growing gradually until it sounded like a thousand snakes. The thin air of Mars was whipping past their hull, heating it to a dull redness, but there was none of the pitching and rocking of the first journey; the magnetic screens were doing their work well, and for the moment, at least, the Violet Layer was powerless to harm them. Still the hissing grew, and Maurice gasped. This was perhaps the most dangerous moment of the whole voyage. Was it imagination, or was the noise fading gradually away again? The velocity register was falling, and they were less than ten miles up.

'Readings,' rapped Häller again, and Knight

replied. Maurice looked quickly round the cabin. All four of his companions lay still, but even Miroff's expression had relaxed, and somehow he knew that the worst peril, that of the Layer, had been overcome.

The hissing had died to a murmur, and as Maurice watched the height register he saw the needle flicker to zero. Häller gave a final burst of power, and then there came a violent jerk that jolted Maurice's body like a blow. The E.5 lurched, quivered slightly, and then came to rest, while the engines faded away into silence. For a few seconds nobody spoke.

'Well done, Prof,' drawled Knight at last, fumbling with the straps and sitting up in his couch. 'That must be the best touch-down of all time. How far off do you think we are?'

Häller breathed hard, and polished his spectacles. 'I think we have done well. We are not far from Lowell Dome, and that is better than I had dared to hope. You are unhurt, all of you?'

'More or less,' grunted Maurice, easing himself up. 'Ouf! I feel like a lump of lead. It's so long since we blasted off that I've forgotten what gravity's like. My knees are like jellies.'

'It will pass,' said Häller seriously. 'It is fortunate that we have only one-third of our Earth weight. Remember, we cannot delay, and it will be necessary for us to get to the Dome before nightfall.'

Maurice staggered across the cabin, rather in the fashion of a drunken man. It was stupid to have to learn how to walk again, but there was no choice;

six months under conditions of weightlessness had left their mark, and he felt weak and helpless. Häller, much the oldest of the five, was even worse off, but all knew that they could not linger. They were so near now that it was unthinkable not to do everything possible to find out the reason for Lowell Dome's strange silence.

It had been natural enough for the first Domes to be built near the Martian equator. During the hottest part of the day, around noon and the early afternoon, the temperature sometimes rose to 80 degrees, so that a man could walk about in the open with no extra protection other than an oxygen helmet. The nights, of course, were so bitterly cold that it would have been fatal to venture outside without an insulating suit, as Maurice had good reason to know. He paused, massaging his aching knees.

'How much daylight have we got? Is it worth taking full suits?'

Häller nodded. 'But yes. We are only a few miles away, it is true, but we must take no risks. Besides, how do we know that it will be possible for us to enter the Dome?'

Maurice blinked. 'Why not?'

'Use your head,' said Knight gruffly. 'We've got to face it. For all we know, every soul in Lowell may be as dead as mutton, and if the airlocks are closed we may not be able to get inside. The crackle's still too bad for us to have any hope of getting through on the radio, so we'll have to take the chance.'

'All of us?' said Lang quietly. 'I wonder. What do you feel about it, Professor?'

'I am not sure,' muttered Häller. 'Ach, I know what you are thinking. If some strange sickness has broken out within the dome, it is possible that we will become infected before we can realize the danger.' He looked at Miroff. 'It will be wise for one or two of us to stay behind. You prefer to do so, Doctor?'

'As you please,' said Miroff, and shrugged. 'It makes no difference now. If I am to stay, I prefer to be left alone.'

Häller raised no objections, and the next twenty minutes were spent in checking the insulating suits and breathing equipment. Thin though it was, the Martian air produced enough pressure to avoid the danger of blood-boiling, and the suits used on the surface of the planet were not unlike the old-fashioned diver's outfit, with flexible arm and leg joints. They were certainly far more comfortable than the rigid cylinders necessary in space, or on the almost airless Moon. Still, Maurice felt painfully heavy when he had struggled into his "suit of armour", and he wondered whether he would manage to walk more than a few hundred yards without collapsing, to say nothing of the five or six miles to Lowell Dome. Besides, there was no guarantee that Häller's calculations had been perfect, and they might be in for a longer walk than they expected.

Eagerly he followed his companions into the tiny

airlock. A last check, and then Häller drew the bolts of the outer door and thrust it open. For the first time in five years, Maurice gazed out at the strange, unfriendly landscape of Mars.

It was much as he remembered it. The ground was ochre in hue, dotted here and there with clumps of mossy vegetation, and there was a sense of utter stillness, with no breath of wind stirring in the thin, useless atmosphere. In the far distance, close to the horizon, lay a few low and rounded hillocks, but otherwise the land was almost completely flat, and the whole of the Red World seemed to be parched and lifeless. The sun had risen well above the horizon, and there too was Phobos, the curious little moon which raced round Mars so quickly that it rose in the west and set in the east, passing right across the dark blue sky in only four hours.

Knight drew a deep breath. 'Looks much the same, doesn't it? We can't be far from where we landed the first time.'

'Recognize those hills?' asked Victor Lang quietly.

Knight shrugged. 'One hill on Mars looks pretty much like another. I don't believe they're even permanent. They're mostly made of dust, you know, and they're darned treacherous in places, so don't try to shin up them in a hurry.'

'It's—it's not a bit what I expected,' said McAngus. 'Och, I thought for a moment I was going to see sands and oases, with maybe a few camels here and there——'

'There's no sand on Mars,' said Knight. 'These deserts are dust—pure reddish dust, and nothing more. I reckon there aren't any camels within sixty million miles of us. Which direction, Professor? Are you pretty sure of our bearings?'

'But yes. We make towards the sun,' said Häller. 'Within half a mile or so, we should see the telegraph wire that has been built between Lowell and Pickering Domes. I do not think that I can be wrong. Well, my friends, we must make the start.'

Lang jerked a hand towards the grounded E.5. 'Do you suppose it's safe to leave him?'

'Why not? You need have no fears of his blasting away and leaving us to ourselves,' said Häller, with a smile. 'You must not misjudge Dr. Miroff. He is a strange man, as I admit, but he is honest. I have worked with him for many years, and had I not trusted him I would not have agreed to his being with us.'

'I hope you're right. Anyway, he can't do much harm where he is,' said Lang shortly, and turned away. 'I suppose he can always practise on Scottie's bagpipes if he gets bored with his own company. Come on, let's go.'

Maurice needed no urging. He was beginning to get his strength back, and even though he still felt unsteady on his feet he could jump eight or nine feet in the air without much effort, falling again so lightly that he was in no danger of hurting himself. Steadily they made their way across the desolate wilderness,

and all the time the vegetation grew denser and greener as they drew away from the edge of the ochre dust-desert.

None of them said more than an occasional word. Try as they might, they could not hide their fears as to what they might find when they reached the Dome, and the absolute lack of activity was not encouraging. The horizon of Mars was more sharply curved than that of Earth, so that they would have no hope of seeing the Dome until they were close to it, but suddenly Knight paused and pointed.

‘What’s that?’

Maurice followed his gaze. ‘The telegraph line,’ he said easily. ‘You were right, Professor. All we’ve got to do is to follow it.’

They changed direction slightly, and walked rapidly on towards the cable, a thick insulated band supported here and there by short posts. The E.5 was out of sight now, and they were very much alone, but if all went well they would be safe inside Lowell within the hour. Maurice’s heart raced. He wondered whether Bruce Talbot and David Mellor would have changed, or whether they would look the same as they had done before leaving the Earth two years earlier. Somehow he could not bring himself to believe that they might be dead.

They reached the cable, and altered direction once more, still heading eastwards. They had been walking for over an hour, but all four were too keyed-up to take much notice of their aching limbs,

and Maurice had an absurd wish to break into a run. Now and then he switched on his helmet radio and called out, but nothing could be heard apart from the ever-present hiss of the Violet Layer, and after a time he gave up. Then he noticed something else—something that he did not like. The cable was no longer intact. As they drew on, he could see that it was twisted at a strange angle, as though it had been forced round by giant hands, while one or two of the supporting posts were wrenched out of position.

Knight noticed it too. 'Looks bad,' he said evenly. 'I reckon that's out of action, all right. Gee! I'd do a lot to be able to skip the next couple of hours!'

Maurice swallowed hard, and made no reply. He strained his eyes, but still there was nothing but the ochre desert, the greenish scrub and the occasional dust-hills, with the distorted cable stretching ahead of them into the distance. Häller was obviously tired, and in spite of himself he was forced to slow down, until Maurice could have screamed with impatience.

Then he saw the Dome. Over the horizon he could make out a whitish patch, and in a few minutes more there could be no mistake. Lowell Base was before them, the greatest of Man's creations and—perhaps—the tomb of those who had built it. It looked intact . . . or did it? Maurice swung up his binoculars, and gave a choked cry.

'Look! Norman—Professor! Look!'

'Wait,' said Knight quietly. 'We're too far off yet. Besides, don't forget that the Base is made up of four

domes joined together, each with its own airlock and pressure system. Even if one of them has been damaged, the others may still be O.K.'

'It looks—it looks as though it had been punctured,' muttered Maurice. 'It's half down, at any rate. If only we could—'

Knight put a hand on his shoulder. 'I'm as frantic as you are, but we've got to keep our heads. We've been in tighter corners than this.'

'Have we?' said Maurice bitterly. 'I wonder!'

The last few miles seemed unending. Gradually the whole of the Dome rose above the horizon, and they could see clearly that it was badly damaged. Instead of being a regular, hemispherical bubble, it was like a balloon that had been partially let down, and they could even see a gaping hole in one side. The second dome, close beside it, was in an even worse state, while the other two were hidden. Presently they could make out two of the insulated, small-wheeled "dust-cars" used for short journeys across Mars, but there was no sign of any living thing, and the silence was unbroken.

Maurice bit his lips savagely. His brain was in a whirl, and he could not speak. It looked horribly as though Miroff had been right, and that Lowell Dome was a city of dead men.

CHAPTER VI

Inside the Base

AXEL HÄLLER switched on his helmet transmitter. The thin air of Mars was able to carry sound-waves, but it was easier to use the radio when out in the open, and Häller felt too weary and anxious to raise his voice.

'We must take care,' he said heavily. 'Ach, it may be that there has been some disease, and it would be foolish for all of us to expose ourselves. It will be best for two only to advance.'

Maurice nodded. He saw the wisdom of what Häller had said. 'I'll go up, sir. If I can get into the Dome, I'll have a look round and see what's happened.'

'That dent wasn't caused by any darned germ,' grunted Knight. 'It looks more like the after-effects of a bomb. I'm with you.'

'As you wish,' said Häller, and Lang and McAngus stopped rather reluctantly. 'Be watchful, and do not be too quick to venture inside.'

'Depends on whether we can open the airlocks,' said Maurice dryly, as he and Knight stepped forward and made their way towards the battered

Dome. 'We don't even know if the air-plant is still working. From the look of things, I should say that it isn't.'

'Don't give up yet,' said Knight, and squared his shoulders, cursing inwardly at the weight of his insulating suit. 'The other domes may be all right. In any case, it won't take us long to find out.'

Maurice swallowed hard as he stared at the wreckage before him. All Mars seemed ominously still, and he remembered what Häller had once called it "The Silent Planet". It was certainly living up to its name. From sheer force of habit he switched on his helmet radio, and gave a routine call: 'Crew of E.5 to Lowell Dome. Crew of E.5 to Lowell Dome. Can you hear me? Over.'

'Not much hope of an answer, I'm afraid,' muttered Knight. The sagging dome was close ahead now, and the upper part of the far structure was starting to appear to the right of it. 'If they'd been on the look-out—Maurice! Gee—listen! Is it—'

Maurice gasped. The crackle of the Violet Layer was still loud, but there was something else too—something that sounded like a human voice. He tuned his set with frantic haste, and suddenly he felt a tremendous surge of relief.

'Lowell to E.5. Where are you? Domes One and Two airtight so far. Reply. Over.'

Maurice gave a yell. 'It's them—Norman, it's them!' He choked, forgetting for a moment that

his words would carry into the Base. 'Hallo! It's Maurice Gray. We're over beyond the dome that's been damaged. Who's calling?'

The earphones crackled. 'Well, well,' said a cool voice that could belong only to David Mellor. 'I might have known that you wouldn't be far away from any trouble-spot in the Solar System. Make your way round to the north, and I'll open the airlocks. There's nothing to worry about for the moment, though the position isn't exactly happy. Out.'

Maurice breathed hard. 'I—Oh, gosh, I feel like doing a war-dance,' he said stupidly, and blinked. 'The others—'

'Don't worry. They heard,' said Knight shortly, and set off in a series of leaping bounds that carried him over the ground like a kangaroo. 'I told you it was too early to give up. There they are.'

They were round the curve of the wrecked dome now, and they could see that the two structures beyond were still fully inflated. The outer airlock had opened, and two figures had come out on to the plain, waving violently. Moments later Maurice dropped down beside them, and felt Bruce Talbot's hand on his shoulder.

'You haven't altered much,' said Bruce quietly, in his deep and well-remembered voice. 'It's good to see you, even with things as they are. We all thought you'd risk putting the old Lizzie into a return orbit—'

'In a way, I wish you had,' said David Mellor grimly, wringing Knight's hand as though trying to pull it off. 'I might have known better, I suppose. Well, you can't say we didn't warn you. I hope you made a better landing than I did last time, that's all.'

Axel Häller panted up, Lang and McAngus close behind. 'But this is wonderful, my friend. We had thought you dead—ach, we were certain of it. When we heard nothing, we had great fears.'

'Heard nothing?' barked Mellor. 'Confound it, didn't you pick up our messages? I've had someone on the radio every minute of the day and night ever since the trouble started—'

'What trouble?' burst out Maurice. 'We heard you once, when you told us to go back. After that, we couldn't get another squeak.'

Mellor looked bitter. 'I see,' he said. 'I knew the reserve transmitter was weak, but I'd hoped that it might range out for a few million miles when that infernal Layer cleared back. Do you mean to tell me you don't know what's happened?'

'Of course we don't. David, is it bad?'

'About as bad as it can be,' said Mellor, and paused. 'No, it's not a revolution or anything of that kind. It's simply that the air-conditioning plant is wrecked. Once we've used up all our stores of oxygen, we can't renew them, and you can guess what that may mean.'

Maurice stared, and the full force of Mellor's words hit him. 'Lord! You don't mean——'

'Unfortunately, I do. I needn't go into the grisly details, but you can see that things aren't too cheerful. It was one of the things we couldn't possibly allow for, but unless we can put things right pretty soon some of us, at least, will never get back to Earth. At the very best it'll mean the end of the colony, and I know enough about our precious politicians to be sure that we'll never have the chance to try again.'

Häller gripped his arm. 'But why? What caused it?'

Mellor shrugged. 'An explosion in the atomic pile. How much do you know about the work we've been doing here?'

'Very little. Remember, we have heard nothing since we left Earth, and communications are never easy.'

'No, thanks to that confounded Layer,' growled Mellor, as he turned and led the way towards the tall airlock at the entrance to the Dome. 'Mars sets us some pretty problems, one way and another. Well, we had two things to battle against: lack of water, and lack of oxygen. Water was easy enough, because we found an underground supply that seems to be limitless, and all we had to do was to build the Dome above it and then sink a series of perfectly ordinary wells. We haven't even had to bother about manufacturing liquids, which is more than

we'd dared to hope. Air was a different matter altogether. For various reasons we couldn't extract enough oxygen from the water——'

Maurice broke in. 'The domes are kept up by the air inside them, aren't they?'

'If you'll have the goodness to let me finish, I'll explain,' said Mellor. 'The plastic materials came down on their own, in an unmanned rocket guided by remote control, and even though it did smash up on landing we managed to save everything we wanted. All we did was to dismantle one of the rocket craft, the E.3, and turn the engines into a powerful sort of pump, after which we simply forced atmosphere into the plastic until it was fully blown up. It took some time, and pretty uncomfortable it was, since we had to wear helmets all the time. Then we inflated another dome, and crammed it with all the machinery we'd been able to bring. It didn't weigh a great deal in itself, but it was absolutely priceless so far as we were concerned. We fixed up the air purifying plant, and had the air inside the dome breathable within a couple of months.'

'What kind of a plant? An atomic one?'

'Naturally. What else?' said Mellor, and paused outside the door. 'Come inside, for goodness' sake. We haven't many more days of comfort, and I've no wish to wear a helmet any more than I must. I've had more than enough of it already.'

Maurice stepped into the lock, the others close

behind, and Mellor pulled the door shut, switching on the pumps that flooded the cramped compartment with oxygen-rich air from inside the Dome. 'Just what went wrong it's impossible to say, but in the middle of the night there was the most appalling bang, and the whole of the atomic-motor dome went up in smoke. I imagine that there was some kind of runaway reaction, and we had no time to do a thing. The only saving grace was that nobody was killed—the mess was confined to that one dome.'

'The one we saw—the one with a hole in it?' asked McAngus.

Mellor shook his head. 'No. There isn't a thing left of the purifying plant, and the dome itself is just mangled plastic. The trouble was that the whole thing was burning, and the flames were sweeping into Dome Three as well. The only answer was to deliberately open it. That let out all the oxygen, and the flames were simply smothered. It was the most efficient form of fire-extinguisher that I've ever come across.'

Maurice breathed hard, 'What then?'

'Well, we had to make up our minds what the deuce to do. We couldn't ferry everyone home, because we had only one usable rocket, and that would carry only six out of the twenty-five of us. We calculated that our reserve oxygen would last us for eight or nine months, which would give us the time to rig up some sort of a temporary plant with

the materials we'd got left. That's what we're doing now. I may add that when we sent out the original message, we hadn't the slightest idea that you had actually blasted off. The radio has been bad all the way through, and the explosion damaged our main transmitters so badly that even now we haven't had a chance to do much about them; since the telegraph line was wrecked as well, we've even been out of touch with Charles Whitton over in Pickering Dome. Well, at least we've a certain amount of breathing-space left yet, in both senses of the term.'

He examined the indicator, and as the needle swung to "normal pressure" he pulled off his helmet, ruffling his untidy black hair and gasping with relief. He looked white and strained, and his eyes were tired, but otherwise he did not seem to have changed.

'Feel done in?' asked Maurice quietly.

'No more than the rest of us. We've all had a gruelling time, one way and another,' said Mellor. 'Well, at least I can show you round our bits and pieces. We're taking turns on duty, and I'm not due to go on for an hour yet. Neither is Bruce.'

Maurice's first impression of the main Dome was one of vastness. The outer skin was made of a plastic substance that was transparent, and yet did not show the sky; there was a kind of glow that made it hard to tell the exact height of the "ceiling", though it must have been well over fifty feet. Near the centre of the Dome he could see a slender but immensely strong pillar, that stretched to the upper

covering. Several figures came towards them, and Maurice was quick to recognize several of the men whom he had known at Woomera.

'Hardly an occasion for rejoicing, I'm afraid,' said Mellor rather bitterly, as he stepped back and locked the inner door. 'Axel, this is our Controller, General Jackson. Remember him? He was one of those deserters who went to the Moon in the early days.'

Jackson shook hands solemnly, for all the world as though being introduced to a fellow-guest in a country house. Maurice had never met the American scientist, but he remembered that Jackson had been mainly responsible for developing the plastic out of which the Dome was made, and he looked quickly at the walls. They seemed thin and fragile enough, but he knew that even an armoured tank would have found it difficult to break through them.

'I'm afraid you've found us in a hot spot,' drawled Jackson. 'Dave, I hate to drag you away, but you're wanted in Dome Two. The boys have run into some new bother, and I reckon they can do with your help.'

Mellor grunted. 'Those confounded reactors?'

'That's about the size of it.' Jackson gave a slow grin; Maurice decided that he liked the look of him. 'Leastways, Doc Ryti is jabbering away in some outlandish tongue, and I can't make head or tail of what he's trying to tell me.'

'I'll show them what we're doing,' said Bruce

quickly. 'That is, unless you want me as well, sir?'

Jackson shook his head. 'I reckon they can sort it out. Put our friends wise; we'll all be needed if we have any more trouble.'

Maurice shook himself. It all seemed like some curious dream; he had been waiting for over three years for his first sight of the Martian Base, but now he was actually here it was not in the least what he had expected. He was struck, too, by the complete calm. Death hung over the whole colony, yet for all the emotion he showed Jackson might have been standing in the safety of his own home, while his companions seemed equally unconcerned. Häller was exchanging news with Professor Lindsdell, Dr. Redford and others of the old Woomera group, while Knight, Lang and McAngus were being led away by John Daniels, another whom Maurice remembered well.

Bruce touched his arm. 'Come on, old fellow. It's the deuce of a time since we saw each other, and I've a heap to tell you.'

Maurice nodded, and the two walked off across the great dome. For a few moments neither spoke, and then Bruce gave a short laugh.

'Rescue acts seem to be quite the thing, don't they? Last time we were on the track of your uncle, and now you're on the track of us. What we really need is a sort of shuttle service.'

'What about Professor Whitton?' said Maurice slowly. 'Is he all right?'

'Yes, so far as I know, though we haven't been able to get in touch with him since the big bang. You remember the sort of chap he is; he hates being one of a crowd, and he and a few of his cronies have taken charge of Pickering Dome, over a hundred miles from here. That's where the second expedition landed—in fact, the old E.2 rocket is still there, though I imagine that it's been pretty well dismantled by now.'

'What's he up to?'

'Search me. I suppose it's something to do with plants and hydroponic farming, but it's a bit out of my line. We haven't bothered to get him back here, because he doesn't pretend to be an engineer, and he couldn't be of much help. Doc Häller will be able to make himself useful, though. He's a clever old boy.'

A thought struck Maurice. 'Why not take everybody across to Pickering Dome, if the air supply there is still all right?'

'Because Pickering hasn't got its own purifiers,' said Bruce seriously. 'They get their supplies from an underground tank. We'd filled it up with compressed oxygen before the trouble began, and they can hold out for a long time yet, but there's no point in sending anybody else over there. Besides, it's only a small dome, and the lot of us would use up all its air in no time.'

'I still don't get it,' muttered Maurice, his gaze roving round. They were close to the central pillar

now, and on the far wall he could see the entrance to another airlock. 'If you could build a purifier once, why can't you do it again?'

'Because we haven't got the atomic equipment. The whole lot went up at the time of the big bang. Look, I'll tell you a bit about what went on.' Bruce paused. 'When I got here, in the E.3, the first dome was about half filled. That's the one we're in at the moment, by the way. Number Two is still all right, and I'll show you where it is in a moment—it's through that airlock over there, and it's where the main work is going on now. Number Four was the mainspring of the whole Base, because it held not only the purifiers but also the most powerful of our radio transmitters. We had the deuce of a time with that one,' he added, with a grin. 'A patch of the plastic was faulty, and as soon as the pressure built up a whole section of the dome blew out just like a cork from a bottle. We lost a lot more oxygen than we could afford, and if we hadn't managed to plug it up pretty quickly we'd have been in a fix. In those days, though, we still thought we'd be able to get oxygen from the water.'

'Can't you?'

'Not without the atomics. So far nobody has been able to find a way out. Still, Jackson and the others had brought a whole lot of equipment that they reckoned could keep the air fresh. I don't mean they could make oxygen out of nothingness, but they could save what we've got, and they hoped to be

able to split up the carbon dioxide in the natural air of Mars.'

Maurice blinked. 'I'm no chemist. How does carbon dioxide come into it?'

'Well, it's the gas we breathe out, and also there's quite a lot of it in the Martian atmosphere. It's made up of oxygen bound together with carbon, and if you can break it apart—hey presto, there's your oxygen. Plants do it automatically, which is mainly why the Earth's air keeps fresh, but the mosses on this darned planet aren't the least bit of use.' Bruce paused; they had reached the far airlock, and they could hear a loud humming from beyond. 'I'll take you into Dome Two later, but if they're having trouble with the reactors we'd better not butt in yet awhile.'

'What kind of reactors?'

'The gadgets for the makeshift air-purifier. From what I can make out, David's trying to make do with the material we managed to rescue. They're running tremendous risks, but it's the only hope of pulling matters round.'

'I'm starting to see,' muttered Maurice. 'If it works all right, you'll be able to carry on until you can get some more equipment from Earth?'

Bruce nodded. 'That's it. We can seal up this dome, and make our headquarters in the smaller one until we can get the radio working well enough to send an S.O.S. to Woomera. But it's too early to tell. It may not be any use, and it's possible—

just possible—that it may set off another explosion. If that happens, we'll be in for it. We may be able to save the dome, but we certainly won't be able to save ourselves.'

CHAPTER VII

The Wrecked Dome

Maurice soon found that there was no time for slackness inside Lowell Dome. General Jackson was good-humoured and popular, but he was also a firm believer in hard and fast organization, so that before he had been inside the Base for more than a few hours Maurice was instructed to join the radio team and take regular turns of duty. Certainly he had no objection; he hated doing nothing, and radio was one of his greatest interests. Moreover, it meant that he worked with Bruce Talbot and Norman Knight, and the chief radar engineer, a tall, friendly Swede named Nilssen, was thoughtful enough to arrange matters so that Bruce and Maurice were on duty together.

There was certainly a great deal to be done. Most of the main installation had been destroyed, and somehow or other they had to find a means of re-building a transmitter powerful enough to contact the Earth. As Nilssen pointed out, they would have to have a full-scale air-purifier sooner or later, and there were various materials that could only come from Earth, so that speed was essential.

'Why not send one of the rockets?' suggested Maurice, when he and Bruce were alone in the wireless department battling with what Nilssen called "the odds and the ends".

'Because there isn't time,' said Bruce shortly. 'It would take at least a year, and we haven't that long. Besides, we can't spare a rocket. We've only got the E.1 still properly workable, and it ought to carry six of us if the worst happens.'

'What about the rocket over at Pickering Dome?'

Bruce shrugged. 'I haven't a clue. As you know, we've not heard a word from Whitton since the telegraph cable was put out of action; after all, he can contact us soon enough by dust-car if he wants to, and nobody here has had the time to go over. Still, the E.2 made a pretty poor landing, and I've no doubt that it's been taken to bits by now. It certainly couldn't blast off.'

Oddly enough, Maurice found that he was not particularly worried. It was true that there was always a feeling of strain, but he had sense enough and self-control enough not to brood; he was interested in his work—it was 'something to get one's teeth into', as he said—and he had the happy knack of keeping old friends and making new ones. Mellor saw them at intervals, looking thinner and whiter each day as he and his team battled with the appalling difficulties facing them, but on the whole Maurice was content. It was not for over a

week that he began to realize that all was not well in the Base.

He had come off duty in the early afternoon, after working through most of the night, and he and Bruce walked wearily across the Dome to the tiny living-compartment which they shared. Maurice was not displeased with himself. He had done well, and he knew it; Nilssen admitted that he was a better technician than most, and between them he, Bruce and Knight had managed to go a long way towards solving the major problems. Bruce gave a yawn, and rubbed his eyes.

'Gosh! I feel done in. We'll have to get back as soon as we can, though. Doc Nilssen's a sick man, and I suppose we'd better take as much off his shoulders as we can. Are you game for a stroll?'

'Outside, you mean?'

'Yes. Let's take a breath of fresh air,' said Bruce, with a grin. 'We needn't put on full suits yet, and you haven't ha' a good look at the Base; besides, there's the E.I and the launching bowl. All right?'

'Suits me. Any special reason?'

'In a way. I've been turning a lot of things over in my mind, and I'm not sure whether I'm making an utter fool of myself. I feel that if I stay shut up in this bubble much longer, I shall start to have claustro—claustro—what's the word?'

'I don't know, but it means "fear of being closed in",' chuckled Maurice. 'If we're going far, though,

I'm all for putting on full dress. I haven't forgotten what happened last time we went for an evening walk.'

'Nor have I,' said Bruce, and shuddered. 'Five years ago! It seems more like five centuries. Still, we'll stay close to the Base. All the suits are in the other end of Dome Two, and I can't be bothered to go and get them.'

Mars had a curious climate. Near noon it was pleasantly warm, but the thin atmosphere was poor at holding on to its heat, and by the middle of the afternoon the temperature always dropped to well below freezing point, even though they were practically on the equator. During the night a thermometer registered over a hundred degrees below zero, and to go outside without protection would have meant instant frostbite, but at the moment the sun was still high up. They had at least another half-hour before the cold became really bad, and the two dressed themselves in what were called "partial suits", electrically warmed in much the manner of an airman's clothing. Bruce operated the airlocks, and led the way into the open.

Maurice breathed deeply. It was good to be outside again, even though his head was covered with a helmet, and he looked round at the familiar ochre desert, with its greenish moss and distant dust-hills. Somehow the Dome looked oddly out of place, as though human beings did not belong to the world to which they had come.

'What's the trouble?' said Maurice at last, as they

walked slowly round the main base until they came to the damaged, useless Dome Three. 'Wondering what's going to happen if the air-purifier blows another fuse?'

'In a way,' said Bruce thoughtfully. 'Have you noticed anything odd lately?'

'Not particularly. It all seems much the same as it was when I arrived. Even old Miroff seems quite tame.'

'I wonder,' said Bruce. 'I'm inclined to think that friend Miroff is a trouble-maker. He seems to be the only man with nothing particular to do, and he spends most of his time poking round asking awkward questions. I don't like it. He even tried it on me once, and I soon told him I was too busy to stop and chatter.'

'What sort of questions?' Maurice kicked at the dry moss with his foot, and disturbed a cloud of dust that hung in the air for some seconds before settling again. 'I expect he wants to know what's going on, like everyone else. You can't blame him for that.'

'No, but I can blame him for trying to make out that the business has been handled all wrong,' said Bruce. 'He tried to tell me that the only sensible thing to do was to send five or six men back in a rocket, with orders to call up Earth as soon as they got within range and ask them to send out the equipment we want. He even said that Jackson was the wrong man to be in charge.'

Maurice raised his eyebrows. 'What was he getting at?'

'I imagine he calculated that as one of the really useless men in the Base, he'd be one of those to be shipped off,' said Bruce meaningly. 'Miroff's scared, Maurice, even if he does manage to bluff it out. Once anyone starts to panic, there's no knowing what may happen.'

'I'm not surprised that he's scared. So am I, when I think about it.'

'Yes, but that's the point—you don't think about it any more than you must, and neither do I, though I sometimes go cold all over with pure funk. I wouldn't put it past Miroff to collect a few of his own kind and make a break for it in the E.I. He can't manage without a full crew, because he's no idea of how to handle a space-craft.'

Maurice stared. 'Hang it all, that's going a bit too far. I think he's a sulky old bear, but I can't believe he'd do a thing like that.'

"Play the game, and never fear,"' quoted Bruce. 'I hope you're right, that's all, but he seems to have teamed up with one or two others whom I wouldn't trust far. The trouble is that we can't keep an eye on them. There are only two rockets in working order, so far as we know, and I suppose they couldn't get out to the one you came in, but the E.I is too close for my liking. It's only just beyond Dome Three.'

'Let's have a look at it,' suggested Maurice. 'I saw it way back at Woomera, but I've almost forgotten what it looked like.'

'Much the same as the others, except that it's a bit bigger. Come on, then. We needn't get back inside for another twenty minutes yet.'

They made their way round the huge curve of Dome One, and past the smaller but still imposing Dome Two. Inside they could see the glare of powerful lights as Mellor and his team worked away, testing, experimenting and probing, and presently they came to the partially-collapsed Dome Three. It was a curious sight; the huge, gaping rent in the plastic skin had widened, and much of the cover lay on the ground, loose and flabby. Maurice stepped up, and felt the skin. It yielded at his touch, and it felt decidedly sticky.

'Doesn't seem right,' he said thoughtfully. 'Hang it all, the stuff seems to be melting.'

'I know. The fire had got a pretty good hold before we managed to smother it, and intense heat is the one thing that Jackson's plastic won't stand. You can see what would have happened if we hadn't been pretty quick. The whole Base would have given way, and we'd have been well and truly in the cart. Look, there's the E.I.'

The one remaining space-craft stood well away from the Domes. It lay inside a shallow launching bowl, very like those at Woomera, and it looked much too small to attempt a journey of millions of miles; but it had proved its worth, and there was no reason to suppose that it would be unable to make the return voyage if necessary. Like all its kind it

was built on the "step" system, and was made up of three separate compartments joined by a perfectly rigid strut. The original bottom "step" had of course been dropped during the original blast-off from Earth, but it had been replaced after the arrival, and the E.1 was much as she had been when she had been built in the Australian rocket range. Suddenly Bruce frowned.

'Let's go on board,' he said quietly. 'I've got some sort of a hunch. I may be wrong, but I shan't be satisfied until I've found out.'

Maurice looked at him sharply, but followed without question as Bruce climbed up the ladder-like "gantry" and stepped on to the main platform. He tested the door, and muttered to himself as it swung open. A moment later the two stood in the main crew-cabin, and Bruce bent over the control panel while Maurice watched him in wonderment. Then Bruce gave a long, low whistle.

'So I was right, after all. Look at this.'

'What? I can't see anything—'

'The gauges, man—the gauges. They're showing "full fuel".'

Maurice blinked. 'Well, why the deuce shouldn't they?'

'Because so far as I know, at least, nobody has given orders to fuel up,' said Bruce grimly. 'Which means that it's been done on the sly. Well, do you still think I'm crazy?'

Maurice stared at the tell-tale dials. There could be

no doubt about it; a few adjustments, and the touch of a switch would send the E.1 roaring skywards, away from Mars and away from the dangers that lay there. For a moment he was at a loss for words.

‘What are you going to do?’ he said at last.

Bruce shrugged. ‘Tell the General, I suppose. I know he came out of Dome Two a few minutes before we did, so he’s probably asleep; we’ll have to go and wake him up. Oh, I know we can’t prove a thing, but I’m pretty sure that friend Miroff is at the back of it.’

Maurice did not feel inclined to argue. He knew that it was unjust to believe the sullen, silent astronomer capable of leaving his companions to their fate, and in any case he could not hope to do so without help, but there was clearly some reason for the secret re-fuelling, and he knew that they could run no risks of losing one of their two remaining links with Earth. Thoughtfully he followed Bruce down the gantry and back towards the Base, wondering what Jackson and Mellor would say when they were told of the discovery.

It was then that they heard a strange noise. It was not loud, and it was muffled by their helmets, but it was quite unmistakable, and both Bruce and Maurice pulled up sharply. The usual silence of the Martian wilderness was broken, and the disturbance came from somewhere in the direction of Dome One.

'What the deuce is it?' muttered Bruce. 'A dust-storm?'

Maurice shook his head. He had had some experience of the sudden, violent whirlwinds that raced across the desert from time to time, and he knew that this was something different. It sounded like gas escaping from a giant balloon . . . And then, with a shock, he guessed.

'An air-leak,' he said rapidly. 'Lord! Come on, old fellow. We'd better get inside and raise the alarm. They've probably found out already, but if it comes from the far side of Dome One there's just a chance that nobody has noticed. Quick!'

He bounded off, covering ten feet with each leap, and Bruce was close behind. If a noise could be heard at all in the thin Martian air, it must be due to some violent disturbance, and as they drew nearer to the plastic skin the hissing seemed to grow into a sound like a rushing waterfall. Then he saw a point of light high above his head, like a tiny star inside the dome, and he caught Bruce by the arm.

'Look there. What——'

Bruce gave a shout of dismay. 'That's it! There's a hole in the skin, and the light's shining straight through from behind. Hurry up, for Heaven's sake. Get round to the airlock!'

Maurice panted. It took them only a minute or two to reach the main door, but it seemed like hours, and the hissing grew in volume every second. Then, as Bruce fumbled with the locks, the door

jammed, and more precious moments were lost as he struggled desperately while Maurice bit his lips with frantic impatience. At last they were inside; Bruce did not wait to fill the compartment with air, but slammed the outer door and thrust violently against the inner, pushing it to as soon as both were safely inside. The hissing was subdued now, and obviously it was not easy to hear except from outside the Dome.

'Yell like blazes,' roared Bruce, and ran off across the Dome bellowing at the top of his lungs. Maurice followed suit, and in a matter of seconds the whole Base was aroused; the lusty shouts echoed and re-echoed, and Bruce and Maurice screamed themselves hoarse, gazing at the plastic ceiling as they searched for the damaged section.

General Jackson appeared from the direction of the laboratories, rubbing his eyes and staring in blank amazement, while Häller, McAngus, Redford and others raced up at top speed. Häller almost cannoned into the shouting pair, and gripped Maurice by the shoulder.

'What is wrong? Please to calm yourself—is it that you have the illness?'

Maurice choked, and pointed upwards. 'There's a leak,' he said thickly. 'Over there, I think. We were outside the Dome, and we heard the hiss—'

Häller stiffened, and all eyes swung towards the lofty ceiling. Then Jackson gave a whistle.

'You're right,' he said in a crisp voice. 'Well, now

I guess we've had everything. Listen hard, the lot of you. Oxygen equipment on—emergency procedure as agreed. Dr. Lopez, please go and warn Mellor in Dome Two. Stand by for possible complete evacuation of this Dome. Hurry!"

Everything seemed to happen at once. Maurice felt dazed and bewildered; he had been told about the emergency procedure, but he had no particular job himself, and nor for once had Bruce. It seemed as though the Base had become filled with men, and tall ladders were collected in an amazingly short time but the hissing was becoming louder and louder now. Bruce stood still, looking helplessly upwards.

"This is it," he muttered. "What ghastly luck!"

The rent was becoming visible, growing steadily larger as the dense air inside the Dome forced its way outwards. Maurice gulped, and gazed around him, trying to catch sight of Mellor's tall figure. For a moment he lifted his helmet, and at once he felt a tightness around his chest. The air was thinning rapidly, and he choked and spluttered before forcing the mask back into place. There was little time left; unless the repair could be finished within a few minutes, the whole of the Dome would become useless, and that would surely be the end. He had the feeling that at any moment the whole structure would collapse around him, burying him in the ruins and crushing the breath from his body, but he shook himself angrily and tried to take a grip

upon himself. He realized that Mellor was standing beside him, and he raised his voice in a shout.

‘What are the chances, David?’

Mellor turned. ‘Pretty slim,’ he said harshly. ‘If we don’t get that hole stopped soon, the whole Dome will be falling around our ears!’

CHAPTER VIII

Treachery!

Maurice clenched his hands, and stared upwards at the sagging roof. He felt angry and helpless, and even Mellor was unable to do more than stand and watch while the emergency repair squad tried desperately to seal the ever-widening hole. Bruce's eyes wandered to the large pressure indicator fixed in the central pillar. It showed less than 'half normal' now, and he knew that the air had become unbreathable, so that to take off his helmet would have meant suffocation.

'We'll never do it,' breathed McAngus. 'It's too much. Och, look at it!'

General Jackson's voice rang out suddenly, relayed by a dozen loudspeakers all over Dome One. 'Attention please. Attention please. All those except the Emergency Squad are to leave the Dome immediately—repeat, leave immediately. Squad will carry out what repairs are possible, and will follow. We must resign ourselves to deflating the Dome. Out.'

The roof was sagging more and more obviously now, and Maurice could feel the draught on his

body as the air inside the Dome swirled and whistled towards the vent. The pressure was falling steadily, and he felt sick with despair, but there was no time to stand and gape. Bruce pulled him back towards the airlock, but they were barely in time. The plastic cover seemed to be wrinkling and crumpling every second, and it was a tremendous relief to plunge through the lock into the relative safety of Dome Two.

Mellor lifted his mask, his face dead white and his expression hard and bitter. 'The Fates are well and truly against us, aren't they? The one week when we simply haven't had time to carry out the usual inspection, and this has to happen. Well, we'd better get used to the idea of staying in helmets day and night from now on.'

'But—' began Maurice, and then stopped. He was too sensible to waste time by asking questions at the moment. 'Shall we get outside?'

'It doesn't much matter what we do,' said Mellor savagely. Dome Two was crowded now, and he made his way towards the outer lock. 'We shall have to deflate the whole of Dome One, repair the hole, and then pump it up again. That won't take much more than a week, but the tragedy is that we've lost a complete domeful of oxygen—more than half our total supply. We're in trouble now, and no mistake.'

He thrust into the lock, and Bruce and Maurice followed. A few moments later they were outside,

and Mellor raced round in the direction of Dome One, bounding high in the air and moving in a series of long leaps. As they came in view of the main dome, Maurice pulled up short and whistled softly between his teeth.

'It—it's like a bike tyre that has been let down,' he said softly. 'Jove, I never thought it could be so quick!'

An amazing change had taken place since he and Bruce had first given the alarm. The rent in the plastic had grown into a tremendous tear, and more than half the Dome was touching the ground, while the rest seemed to be sinking every moment. The tall, ladder-like structure put up by the emergency squad poked pathetically through the vent, and two of the repair party were still standing on it, staring helplessly as the plastic fell slowly away from them. The hissing had almost stopped.

'Looks bad,' said an American voice quietly, and General Jackson came up, still adjusting the helmet that rested over his shoulders. 'I reckon we've got to face it, and cut our losses. How long will it take to plug the hole, do you suppose? I'd say more than twelve hours.'

Mellor nodded wearily. 'We'll be lucky to get it finished before tomorrow night. Any idea what caused it?'

'The heat?' suggested Maurice. 'It was pretty warm near midday—'

Jackson shook his head. 'Some fault in the outer

skin. We'd done a bit of extra pumping to get the inside pressure back to normal—that has to be done every few days; we're bound to lose a certain amount every time the airlocks are opened—and the strain was too much.' He turned to Axel Häller, who had come stumbling out. 'Will you take charge of the repair? You'll have to work all night, which means putting on full suits.'

The Danish engineer nodded. 'But yes. We will do all that is possible,' he said. 'When the patch is finished, you mean to blow up the Dome once more?'

'That's it. We'll have to use the natural atmosphere of this benighted planet, so we won't be able to go inside without helmets, but at least the plastic will give us a protection from the cold. If the new air-purifiers work properly, we'll be able to put back the oxygen. For the moment, we'll have to cram into Dome Two and make the best of it. I've half a mind to send some people over to Pickering. The astronomers could go, to begin with—'

Maurice gave a soft exclamation. He had almost forgotten Miroff, but now he remembered that they had not told the Base Controller about the re-fuelling of the E.1, and he muttered something to Bruce. Bruce nodded, and without hesitation he told Jackson exactly what had happened. The General listened without interrupting, but when Bruce had finished he spoke in a cold, angry voice.

'See here, Talbot, are you accusing one of my men of double-dealing?'

Bruce flushed. 'I'm only telling you what I found out, sir. I won't accuse anyone of anything, but it does seem a bit curious.'

Jackson swung round. 'You're getting too big for your boots, my lad. You should know that this is the worst possible time to stir up trouble, and I reckon you ought to learn when to keep your mouth shut. What if the E.1 has been fuelled up? Any one of the rocket men might want to carry out a test. I can't be expected to know every single thing that goes on in Lowell.'

'Wait a moment,' said Mellor quietly. 'Don't be too hasty, Tom. I'm in charge of the rocket section, as you know, and I gave definite orders that no fuel was to be taken out to either of the space-craft, simply because there isn't much to spare and we may need every scrap of it. I think it would be as well to set a guard.'

'Are you crazy?' Jackson stared. 'You're trying to say that someone's getting ready to make a break?'

'I don't know, but I feel strongly disinclined to take any chances,' said Mellor dryly. 'I think I'll go and have a look at the E.1, just to see whether the fuel is still stored at blast-off quantity. Has it struck you that if Talbot's right, a moment like this is just the one they'd choose?'

'Who? For Pete's sake, who?'

'Anyone who had lost their nerve. Let me handle this my own way,' said Mellor. 'If we're making a mistake there'll be no harm done, so long as we keep quiet.'

Jackson looked at Bruce. 'Have you and Gray spread any rumours?'

'Of course we haven't,' said Bruce as calmly as he could, though inwardly he felt hot and angry. 'You don't seem to think much of us, sir.'

The Controller made no reply, but walked off in the direction of the launching ramp, Mellor at his side. Bruce and Maurice followed rather miserably, leaving Häller to take charge of the repair party. The sun was setting now, and the slightest hummocks cast long, black shadows across the wilderness, while the cold was so intense that the light partial suits were no longer a proper protection. Maurice shivered. He wished that there was time to go back into the Dome to collect full equipment; but after all the launching bowl was less than five hundred yards away from the main airlock.

Suddenly Jackson stopped, and pointed. 'That one of your section, Dave?'

Mellor peered. 'Confound this helmet—I can't see properly. I don't know.' He switched on his portable radio. 'Mellor to E.I. Who has instructed you to man the rocket? Over.'

There was no reply, but Bruce and Maurice could see that the first figure was not alone, two others had joined him, and all were heading purposefully

for the grounded spacecraft. Mellor called again, but still there was no reply; two of the men had begun to climb the tall gantry, while the third broke into a leaping run as he raced across the desert.

‘It’s Miroff,’ said Maurice rapidly. ‘Shall we stop him, sir?’

‘No. Wait——’ began Jackson, then sprang forward. ‘Yes, you’d better. I half believe there’s some funny business going on.’

Bruce and Maurice wasted no time. Miroff was close to the gantry now, but for a moment he stumbled, and before he could haul himself out of reach the racing four had caught up with him. Jackson was still in the lead, and he grabbed at Miroff’s legs as the astronomer scrambled upwards.

‘See here, Miroff——’

‘Keep back!’ Miroff kicked out suddenly. ‘Stand away, I tell you!’

His iron-booted foot landed heavily on Jackson’s helmet, and the Controller staggered back with a cry. Next moment Miroff was away, Bruce after him, and the whole gantry rocked dizzily. Mellor went to follow, but stopped short.

‘Jackson’s hurt,’ he said harshly. ‘Quick. His helmet——’

Maurice gave a grunt of dismay. He could see that the savage kick had wrenched the oxygen-leads out of place, and that the precious gas was leaking out while Jackson twisted and moaned,

choking painfully. Maurice gritted his teeth, and looked frantically round. No hope of getting to the Dome and back in time, so there was only one thing to do.

'Help me,' he said, and struggled to lift the Controller's bulky form. Even under the reduced gravity of Mars, Jackson was no lightweight, but with Mellor's help he managed to swing him across his shoulders, and set off towards the airlock at a staggering lurch. Mellor paused, then raced ahead and fumbled with the bolts.

Maurice panted. Jackson seemed to be crushing him, but his struggles had stopped now, and Maurice knew with sudden horror that there was no time to cover the last hundred yards. He gulped, let Jackson fall, and grasped his own air-leads. If Mellor could get back in time, with a fresh helmet, there was hope yet.

He filled his lungs to the fullest possible extent, slipped off his helmet and switched it with Jackson's. The coldness struck him like a blow, and he gasped painfully, losing a puff of precious air as he did so. Then he relaxed limply, concentrating all his energy upon using as little breath as was humanly possible. Dimly he heard a roar, and his eye caught a blinding flash not far away, but he was too dazed to understand what it meant. He could not hold out for much longer now. If only Mellor was quick . . .

He rolled over on to his stomach, and buried his head in a clump of the rough, scrubby plant

stuff that grew in patches round the launching bowl. Was it imagination, or was there a feeling of sudden relief? He gulped slightly, and it seemed almost as though new air had entered his lungs, but he was fast losing consciousness. Red sparks danced in front of him, and he gave a choked moan. Then there was a shaking, and he felt a helmet being pressed down on his shoulders, but he could not see who was holding him, and suddenly everything went black.

When he came to his senses, he was lying flat inside Dome Two with a knot of people gathered round him. Mellor and Bruce were there, and Jackson knelt down, peering anxiously into his face. As Maurice's eyes flickered open, the General gave a grunt of relief.

'All right, lad?'

'Wh—oof!' Maurice gasped and spluttered. 'My head! What—what happened?'

'You nearly did for yourself that time, old fellow,' said Bruce quietly, pressing him back. 'Take it easy. You gave us all a pretty bad scare.'

Maurice grinned feebly as memory came flooding back. 'Nothing compared with the scare I gave myself,' he said ruefully. 'Wow! How long did I hang out?'

'Over three minutes,' said Mellor in a curious tone. 'If it's any satisfaction to you, you've set up an all-time record for staying in the open without oxygen. I don't know how the blazes you did it.'

Even so, I was only just in time. If there hadn't been a spare helmet inside the lock, I'd never have got to you.'

Maurice pushed Bruce's hand away, and sat up. 'What—what was that bang? Did the rest of the Dome cave in, too?'

'That bang,' said Jackson flatly, 'was the E.I blasting off. Those treacherous rats! You and Talbot were right all along the line, and I apologize. They'd fuelled the ship so thoroughly that they were all ready to go, and as soon as the trouble started they made a bolt—Miroff and two others. I'll see them brought to trial if it's the last thing I do.'

Maurice looked round. 'Bruce——'

'I'm all right, but it was a near thing,' said Bruce. 'I was just too slow, and Miroff slammed the door in my face. I couldn't get inside, so I just shinned back down the gantry and hoped for the best. I was about fifty yards back when they blasted away, and believe me I don't want to go through it again. If they'd been using atomic motors in the bottom step, I'd have been well and truly soaked with radiation.'

'I see,' muttered Maurice. 'What a business! Let me up; I can stand.' He staggered to his feet, and clutched at Mellor for support. 'Phew, my head! I feel as though I'd been clouted with a sledge-hammer.'

Jackson cleared his throat. 'If it hadn't been for you, I guess all the sledge-hammers on Mars wouldn't

have woken me up. I'm grateful for what you did.'

Maurice felt uncomfortable, but Mellor had the tact to break in. 'I suppose you know what the position is,' he said sharply. 'We've lost Dome One, and we've lost one of our only two usable rockets. The oxygen will last for another week if we keep helmets on all the time and cut off the main supply to the Dome, but no more. We'll have to take a chance, and risk using the purifiers as soon as we can rig them up; if we wait to carry out the proper tests, we'll never last out. Has anyone any last-minute suggestions?'

There were over a dozen men inside the Dome, but for a moment there was silence. Then Vaino Rytí, the Finnish chemist, stepped forward.

'My friend, it is the big danger. There may be another of the—what is the word?—runaway reactions, and this dome too may be ruined. It is necessary that we carry out the tests we had planned.'

Mellor gestured. 'There's no time. It would take us a month, and we'd all be dead by then, even if we sent six men off in the E.5 and sent another six over to Pickering. If we're to have a chance of saving ourselves, we've got to gamble. What do you say, Tom?'

General Jackson breathed hard.

'What is there to say? Get the purifiers working, and we'll save the colony yet. If you blow the lot

of us to blazes—well, that'll be a quicker way out than sitting here waiting to suffocate. Get working as quickly as you can, and we'll take the chance.'

CHAPTER IX

Taking the Risk

Maurice always remembered the next few days as being among the most uncomfortable he had ever spent. Once Jackson and Mellor had made up their minds, they left nothing to chance. Experiments with the hastily-built purifier went on continuously, and all the available oxygen supply to the remaining Dome was cut off; the scanty resources could not be wasted by scattering them over a large area, and this meant that all the colonists had to wear helmets the whole time, drawing on the fast-decreasing stores whenever they needed a fresh "charge". Waking hours were not so bad, but sleeping was horribly difficult, and on the whole it was probably fortunate that nobody had time to sleep more than two or three hours out of the twenty-four.

The work on the purifier had to be done by those most skilled in it, but Jackson was too sensible to allow the rest to laze. He insisted upon starting the rebuilding of Dome One, even though it seemed unlikely enough that it would ever be used, and Bruce and Maurice found themselves working with Häller's

team, toiling away until they were ready to drop. The hole itself was repaired without much trouble, but then came the wearisome task of pumping back the air, or more accurately the useless natural "air" of Mars. The normal pumping machinery made use of oxygen, and so was ruled out—apart from the fact that most of it had in any case been destroyed at the time of the explosion. The only alternative was to do the pumping by hand. 'It was rather like blowing up a tent,' as Maurice said afterwards. They worked in relays, changing over at intervals of an hour and keeping it up day and night, but even so their progress seemed to be painfully slow. The most powerful foot-pumps were feeble when compared with the efficient machines that had been used earlier.

To make matters worse, Dome Two was unpleasantly cramped. Much of it was taken up by scientific equipment, and work was going on all the time, so that there was continuous noise. It did give protection against the cold, so that once inside it became possible to take off the heavy insulating suits, but even so Bruce and Maurice stayed in the open as much as they could, even when off duty.

As time went by, Mellor and Jackson became even grimmer and more silent. Things were not going well, and they knew it. Yet the feeling of strain was gone, and Miroff was hardly mentioned. The only time Mellor brought up the subject was on one

of the rare occasions when he emerged from the Dome and joined Bruce and Maurice at what had become known as "Häller's Pump-Handle".

'What do you reckon he'll do when he gets home?' asked Bruce idly. 'Will he just give out that the whole colony's been wrecked, or what? If he was such a coward, it beats me why he made up his mind to come to Mars at all.'

Mellor shrugged. 'Talking about space-travel is one thing, but doing it is quite another. Miroff probably thought that it was a safe game, and that he'd find himself senior astronomer up here, which in the ordinary course of events he would have done. It's always quite pleasant to be a big fish in a small puddle. As soon as he realized that there were real risks, he wanted to back out. Incidentally, I'm not at all certain that he ever will get home.'

Bruce stared. 'Why not?'

'For two reasons. In the first place, neither he nor those two precious friends of his are skilled engineers, and without checks every few days there's always a big chance that something will go badly wrong. Secondly, they took off in a hurry, without waiting to make all the last-moment calculations. Space-travel isn't like air-travel, as you know by this time; the slightest error, and you find yourself in the wrong orbit, without enough fuel to make endless alterations. Miroff may have jumped from the frying-pan into the fire, in which case he'll be in an even worse position than we are.'

Still,' said Mellor, 'I'm not going to bother about him at the moment—I've better things to do. We shall be ready to make the real test in a few hours from now.'

'What are the chances?' asked Bruce quietly.

'About fifty-fifty. If everything works as we hope, the pumps will clear out the waste gases and keep the oxygen at a constant level, which will give us time to tackle what's left of the main purifier. If not, and the runaway reaction starts again, there won't be much we can do about it. There will certainly be an explosion, and even if it doesn't wreck the whole Dome it will undoubtedly destroy the pumps. I'm going to order everyone outside, just in case, though I suppose it makes very little difference in the long run.' He paused. 'You know, I'm getting worried about Charles Whitton, over in Pickering. We haven't had any sort of message from him for months, and without the telegraph line we're completely cut off unless we go over to him in a dust-car.'

Maurice had almost forgotten Professor Whitton. 'How many men are over there with him?'

'Three—Wright, O'Ree and Von Eimar. You remember them I expect,' said Mellor. 'They're all biologists. Pickering is hardly a dome at all in the proper sense of the word; it's a temporary research base, about half the size of the smallest Dome here, and it was run up rather quickly where the E.2 rocket crash-landed. Whitton's got a dust-

car, so he can come over to us if he wants anything, but we ought to find out just what he's doing. Up to now we simply haven't been able to spare the time.'

'I'm still rather hazy about the whole thing,' said Bruce slowly. 'He's messing about with plants, I suppose?'

Mellor nodded. 'Yes. If we could only persuade this infernal scrub to act in the same way that our own plants do, we'd have no oxygen problems at all, but so far they refuse to co-operate. They contain oxygen, of course, but goodness only knows how to release it. I wish we could find out.'

'I wonder,' muttered Maurice. 'Look here, I ~~may~~ be talking nonsense, but—you remember that business just after Miroff blasted away?'

'Your rescue act? I'm not likely to forget it,' said Mellor shortly, his eyes on the weary men busy on the pumps which were forcing atmosphere into the still partly-collapsed Dome One. 'Why?'

'Because I believe that the plants made all the difference. I've been thinking about it, and I can't see how I could have lasted out otherwise,' said Maurice. 'I've tried to stay underwater for a couple of minutes at a stretch, and I've never been able to do it, but I lasted a minute and a half longer than that while you were getting the spare helmet. I stuffed my mouth against some of the plants, and it seemed to help.'

Mellor frowned, and stooped down to pick up

some of the dry, dusty growth. 'I don't see how it could. Look at it!'

'Yes, but it wasn't quite like that,' said Maurice stubbornly. 'You know that other sort of plant—the one with tiny knobs on it? I could swear that the knobs broke, and let out a bit of gas.'

'I confess I doubt it,' muttered Mellor. 'Besides, the "knobbly stuff", as you call it, is pretty rare in these parts, though from what I remember there's more of it away on the other side of the desert. What's on your mind?'

'Nothing really, but I feel I'd like to see what Professor Whitton thinks. Any chance of our taking a run over to Pickering Dome?'

'I don't see why not,' said Mellor. 'Now that it's only a question of pumping, the dome squad can manage without you, and you may as well see as much of Mars as you can while you've still got the chance.' He grinned acidly. 'I'll put it to the General next time I see him, if you like. Confound it, I can't stay here chattering—I've a lot to do yet, and time is short. I'll let you know later on.'

He stretched himself wearily and walked back towards the now open airlock, leaving Bruce and Maurice staring thoughtfully after him. Some hours afterwards, when night had fallen and the two had finished their latest spell of duty, Jackson came up to them and handed Bruce a sealed envelope.

'I've had a word with Dr. Mellor,' he said

abruptly, his voice tired and husky. 'I was half meaning to send a party across to Pickering, and it might as well be you two. Can you handle a dust-car?'

Bruce nodded. 'I've been right across *Æria* in one, sir.'

'So you have. I'd forgotten you went out with the exploring party,' said Jackson. 'All right, then. You know your bearings, and you can get across tomorrow if you like, after we've seen how the experiment goes.'

Bruce tensed. 'The purifier, you mean?'

'That's it. It's tomorrow or never,' said Jackson soberly. 'We can't afford to wait a day longer. Our oxygen is getting dangerously short already, and if we waste any more time there won't be enough of it to last more than a few months. If and when you get to Pickering, give Whitton these orders. He won't like them, I'm afraid, but there's no choice now. I'll tell Doc Haller to put someone else on the pump-squad in your place, so you'd better get what rest you can.'

It was sound advice, but even when Bruce and Maurice lay uncomfortably down on one of the couches they found it difficult to sleep. Their helmets jolted painfully whenever they moved, and even the usually calm and level-headed Bruce was very much "on edge", while the more imaginative Maurice was quite unable to relax. He lay as still as he could, turning over in his mind all that had

happened—the first trip, the departure from Woomera, the nerve-racking walk across the desert, and lastly the treachery of Miroff and his two companions. Where were they now? Were they safely in orbit, on the way to Earth, or had they met with disaster either in passing through the Violet Layer or beyond? Maurice closed his eyes, and did his best to sleep, but the hours seemed to drag, while the clatter of the working party on the purifier echoed in his ears like distant thunder. At last he dropped into an uneasy doze, but he woke every few minutes until finally the pale sunlight began to light up the semi-transparent roof of the Dome.

Bruce yawned loudly, and rolled off the couch. 'No use,' he said. 'Come on—let's have a look round. If I lie here any longer, I'll go off my head.'

Maurice struggled into his partial suit, and followed his friend out through the airlock. The silence outside seemed peaceful compared with the uproar in the Dome, and somehow Maurice felt that Mars was a world where men could have achieved great things; the deep blue sky, the quiet desert, the patchy scrub and the scurrying crescent of Phobos seemed in their way as familiar as Woomera had been, and he shook himself.

'We'll soon know,' said Bruce, in answer to the unspoken question. 'David's not beaten yet, and he won't give in without a fight.'

Maurice knew that Mellor could be relied upon

to do anything possible, but he also knew that even Mellor could not work miracles. For over an hour the two walked about, round the wrecked Domes and across to the now-empty launching bowl where the E.1 had stood, until at last Bruce led the way over to the two clumsy but efficient "dust-cars" used for travelling across the desert. They looked rather like large beetles, with small wheels and insulated cabins with miniature airlock entrances.

"Have you been in one of these?" said Bruce idly, his hand resting on the metal body.

"Yes, but not far. What speed can they do?"

"About thirty knots flat out, but it's darned bumpy at anything over ten," said Bruce, and grinned. "It'll take us ages to get across to Pickering, so I guess we'll be pretty stiff and sore when we arrive. Last time I did a long journey was that time when we went right across *Aeria*, not long after we got here. Phew! I couldn't sit down for a week afterwards."

"If we—" began Maurice, and stopped. "Look over there. I believe something's happening."

The party on Dome One had stopped work, and as Bruce and Maurice made their way back towards the main base they could see a stream of helmeted figures coming out through the airlocks. Knight, Nilssen, Rytí, Lang and McAngus were all there, while Jackson talked earnestly to Mellor and Häller. Then Mellor held up his hand, and indicated his portable radio.

Maurice switched on, and there was the usual

crackle before Mellor's voice came through. 'Attention, everyone. Attention. Can you all hear?'

There was a pause, and all eyes turned towards Mellor's tall, lanky figure, while General Jackson looked round first at the domes and then at the waiting men.

'We've done all we can,' went on Mellor at last, in a flat, unemotional tone. 'You all know the risks that we'll have to run, but it's now or never. If we can maintain the oxygen level inside Dome Two without having to draw on the last of our supplies, we can manage; if not, we can't, and there's no point in waiting any longer. In two or three minutes, we propose to switch on the purifier. If it functions, there will be no danger, but if not it may cause another explosion that will wreck the dome beyond all hope of repair. Fortunately we shan't be kept in suspense. If the explosion comes at all, it will happen almost at once.' He paused. 'What orders, General?'

'Just these,' said Jackson. 'Dr. Mellor and his team are going into the Dome, and everyone else is to keep well clear. Nobody is to come closer than fifty yards without being told, even if the whole shoot goes up in smoke. Is that understood?'

McAngus' Scottish voice came over the earphones. 'Och, what's the odds?'

'You've had my orders, and I'm still in command,' said Jackson shortly. 'As soon as you're ready, Dr. Mellor.'

Mellor nodded. Without another word he turned and went back into the Dome, followed by two men whom Maurice recognized as Häller and Rytí, and the airlock door swung to. Maurice gripped Bruce's arm, and set his jaw.

'I wish we could do something,' muttered Bruce softly. 'This is about the only time I've ever been sorry that I'm a radar man and not a physicist!'

Maurice nodded. 'Me too. Pray hard.'

There was a pause that seemed unending. Maurice kept his eyes on the dial of his watch, and waited breathlessly expecting every moment to hear a dull roar. One minute . . . a minute and a half . . . two.

'It must come soon if it's to come at all,' muttered Bruce at last. 'Lord! this is worse than blasting-off!'

Two and a half minutes . . . three. Then, from the inside of the Dome, came a dull whine that seemed to grow louder and louder as the seconds ticked by. Maurice felt the sweat standing out on his forehead. The atomic plant had started up, and so far all was well. What had Mellor meant by the explosion coming 'almost at once'? Did this low, satisfying hum mean that all was well?

Four minutes. Then the airlocks opened again, and three men came out, Mellor in the lead. Maurice felt a surge of relief, and instinctively he switched on his helmet transmitter, while Bruce started forward.

'David! Does it work? Is it all right?'

Mellor's voice answered harshly. 'I don't know

yet. Keep back, all of you. If nothing happens within half a minute——'

The sentence was never finished. Even as he was speaking, the whine rose to a violent scream, and then came a deep, thudding boom that echoed across the wilderness. Dome Two seemed to crumple and shake, and there was a sudden flash from inside that vanished almost as suddenly as it had appeared.

Maurice half-turned, his eyes wide with horror. 'Bruce——'

Bruce gave a shout, and raced towards the shaking Dome. 'David! Get away, for Heaven's sake. If it blows up now, you haven't a hope!'

CHAPTER X

The Mystery of the Desert

MELLOR REELED. Jackson's voice crackled in Maurice's earphones, but the hissing was too loud for any words to be made out, and Maurice flicked the switch that cut off the helmet radio. He leaped after Bruce, and dropped down beside the three men at the airlock.

'Get back,' said Mellor hoarsely. 'I'm going inside to see whether the motors have stopped. Häller's hurt—Vaïno, get him out of the way—'

'But, my friend—' began the Finnish scientist.

'No time to argue. Hurry,' gasped Mellor, and plunged back towards the lock. Instinctively Bruce and Maurice followed, keeping closely behind as Mellor pushed through the yielding doors and into the main base. Then Maurice gasped. Dome Two was a scene of wreckage; there was nothing left of the equipment, nothing of the radio transmitter that he and Bruce had worked so long to build. Rubble and debris littered the floor, and it seemed a miracle that the plastic covering had not been broken. What caught their eyes most was a glowing

patch in the middle of the floor, flickering slightly almost as though it were alive.

Bruce stopped. 'What's that?'

'Nothing of any particular importance,' said Mellor bitterly. 'The purifier has wrecked itself, as I half thought it would, and there's no danger of another bang. Nor, luckily, is there any danger from radioactivity. Well, that's that.'

Jackson appeared in the doorway, followed by Nilssen and Redford. 'See here, I thought I told you not to come near without orders. The whole place may be soaked in radiation—'

Mellor shook his head. 'That's one thing we haven't got to worry about, Tom. Better get the emergency squad to examine the plastic; if there are any weak points, they may blow out. Is Axel all right?'

'A few scratches, but nothing more,' said Jackson. 'How long will it take to repair the purifier and try again?'

There was a short silence. 'More time than we've got, even if it could be done at all,' said Mellor. 'I'm—I'm sorry. I feel I've bungled the whole business, but I had to take the chance.'

Jackson grunted. 'You couldn't have done more, and you know it. We've one ship, able to carry six men—seven at the most—and there are nearly thirty of us. Quite a problem, isn't it?'

'There may be time to get fresh supplies from Earth,' said Redford, his voice high and cracked.

'Miroff is bound to raise the alarm as soon as he gets within radio range—'

'I doubt it,' said Jackson dryly. 'I don't reckon we can hope for anything from Miroff, even if he's still alive. No, we've got to face it. Six or seven of us can live, with luck, but the rest of us have got to stay right here and take what's coming to us.' He turned suddenly towards Bruce and Maurice. 'Are you two still ready to get across to Whitton?'

Bruce nodded promptly. 'Now, sir?'

'Yes. Tell him what's happened, and tell him that he'd better bring his party across to Lowell Dome. If he prefers to stay where he is I've no objection, but it'll mean that he will lose any chance of getting back on the E.5,' said Jackson. 'I may be guessing wrong, but I think we've about a week's grace before things start to get really tight. Get going.'

What struck Maurice most forcibly was the fact that everyone seemed to be completely calm. The explosion in Dome Two was to all intents and purposes a death-sentence, but there was no panic and indeed no outward sign that anything was wrong. McAngus grinned at them as the two walked slowly over to the dust-car, and switched on his radio.

'Enjoy your ride,' he said in his broadest Scots. 'Och, it may be your last. I'll even lend ye my bagpipes if you want cheering up on the way.'

'We wouldn't have breath enough to blow 'em,' said Bruce lightly. 'Better bury them in the dust,

Scottie. One day another party will come here, and they may dig 'em up and put them in a museum.'

He switched off before McAngus could reply, and climbed into the airlock of the squat, low-slung vehicle. The lock could hold only one man at a time, and when Maurice had joined him inside the car there was little room to spare. They had to sit side by side, pressed hard against each other, while Bruce tested the controls and switched on the small but powerful motor.

'All set?'

Maurice wriggled down. 'Dare we risk taking off our helmets for a bit, and flooding oxygen into the cabin? We've enough air for the trip to Pickering and back.'

'No,' said Bruce decidedly. 'It would waste quite a bit of oxygen when we get out through the airlock, and we simply must save every scrap. Sorry but you'll have to put *p* with it. Right.'

The motors filled the cabin with their low hum, and the dust-car moved away from the cluster of domes, heading for the distant hills on the horizon. Maurice stretched himself as much as possible, and stared out of the transparent windows. The view was somewhat restricted, but he could make out the figures of Mellor and Jackson, and he saw Mellor wave his hand in farewell. In a few moments they were well away, and it seemed only a short while before the Base had dropped out of view.

behind them, while the low and round-topped hills rose ahead.

Neither Bruce nor Maurice felt inclined to talk. Bruce was too fully occupied in driving, and Maurice had nothing to say; he could not help wondering whether they would reach Pickering Dome to find that Whitton and his party were in even worse case than the men at Lowell, but there was no point in saying so. It was not until they came up to the first of the hills that he broke the silence.

‘Remember that time I got caught in a quicksand?’ he said, and pointed. ‘It can’t have been far away from here. I wouldn’t go through that again for anything.’

‘“Quick-dust” would be a better word,’ grunted Bruce. ‘No, that wasn’t one of the more enjoyable moments of our first trip. I wish to goodness we knew more about this part of Mars. If we drive full-tilt into one of the drifts, we won’t have a hope of hauling the car out, and our oxygen wouldn’t last long enough for a fifty-mile walk. Try and get David on the radio.’

Maurice switched on his transmitter and sent out a call, but there was no response except for the usual hiss. ‘No go. Anyhow, what about the receiver back at Base? It looked pretty much of a mess, and we’re too far off now for the helmet sets to be any good.’

‘I suppose so,’ said Bruce gloomily. ‘We shan’t be able to hear Whitton until we’re almost on top

of him, either. I only hope we find the Dome first shot. Even these special compasses aren't as good as they might be, and we've precious little else to go on.'

Steadily they jolted their way across the wilderness. The scrubby vegetation was starting to thin out now as they neared the edge of the ochre dust-desert, and there were few hills or even mounds, but the ground was terribly uneven, and Maurice felt that his body was one vast ache. After perhaps three hours, Bruce turned to him.

'Can you drive for a bit?'

Maurice nodded. 'All right. I've handled these things before, and they're no more difficult than an ordinary car.'

'Probably less. At least there's no traffic to worry about,' said Bruce, and grinned. 'Heave over, and I'll get out of the driving seat.'

He scrambled over, and Maurice settled down at the controls. Actually, he had driven a dust-car on only one occasion, when Mellor had taken him out and shown him how to handle the controls; but as he had said, there was nothing difficult about it, and he felt that driving was at least better than doing nothing. Bruce lay back and closed his eyes, and presently his deep breathing showed that he had fallen into a doze. Maurice drove steadily on.

Hours passed. Bruce took over once more; then Maurice relieved him, and both longed for some

rest from the constant bumping. The greenish vegetation thinned out, and presently they entered the desert of *Aeria*, where there were no dark patches to break the monotonous ochre of the landscape. At last the sun set, and as it dipped below the horizon a wave of darkness seemed to rush across Mars. There was almost no twilight, and within ten minutes the light had faded altogether, relieved only by the tiny, dim disk of *Deimos*. Maurice switched on the powerful lights, and the beams stabbed into the blackness, probing ahead almost as far as the eye could reach. He checked on the compass course, and his mind wandered back to that first journey of five years' before, when they still knew nothing about the magnetic field of Mars and had to depend upon what Mellor had termed the "Theseus cord".

Suddenly his eyes narrowed. The headlights had picked up something unusual, and he slowed the dust car, turning it slightly until the strange object was in full view. Then he gave a grunt, and paused.

'Bruce! Look there.'

Bruce peered, and yawned sleepily. 'What's wrong? I was just dropping off, confound you. Where are we?'

'Somewhere on Mars,' said Maurice dryly, 'but that thing doesn't look Martian to me. Come on, you dormouse. We'd better go and have a look.'

Bruce stared ahead. 'It—it's a bush,' he said

in a bewildered tone, and fumbled with the air-lock bolts. 'Lord! this is funny. Switch off the motors.'

Maurice obeyed, and followed Bruce through the tiny lock. It was a relief to stand upright again, but he did not wait to gaze around him; eagerly he followed Bruce up to the extraordinary plant, and then he gave a long, low whistle.

'It looks like a collection of Chinese lanterns,' he said slowly. 'Either that, or some kind of nightmare holly-tree. Have you ever seen anything like it?'

Bruce shook his head. 'I've been right across *Æria*, and down as far as *Umbra* in the northern hemisphere, but this beats me. The only plants I've come across are messy little things less than half an inch high. I wonder if it's the only one? Hang it, I wish we could see better.'

'Phobos will rise in about an hour,' muttered Maurice. 'We'd better get on, I suppose. Shall we take a bit of this thing with us?'

Bruce stepped up to the bush, and measured it. 'Comes up above my shoulder,' he said quietly, and felt the dry, crackling leaves and pods. 'Some sort of a freak, I suppose. Hold on.'

He twisted the nearest of the spidery branches, and broke off a section at least a foot long. As he did so, one of the pods seemed to crack, and at once it collapsed into a thin, leathery mass as though the gas inside it had rushed out. Maurice shook

his head in amazement, and stared round at the darkened landscape. Mars seemed to have a never-ending store of surprises.

'Wish we could call up Lowell,' he said at last. 'Air or no air, David and the General would be darned interested in this.'

'You're telling me! Still, we can't,' said Bruce shortly. 'Actually it's more in Whitton's line, I suppose. I may as well check our position as closely as we can, just in case we ever have a chance to come back here.'

He went back into the cabin, and came out carrying one of the small but efficient sextants used for measuring star positions. For some minutes he worked away, while Maurice stared around him, and then Bruce muttered to himself as he made some mental calculations.

'We're right in the desert,' he said at last. 'Pickering Dome must be at least forty miles away yet, and so far as I can make out it's pretty well due east of us. Another six or seven hours ought to see us through.'

Maurice nodded, and with a last look at the strange growth the two climbed back into the dust-car. Once inside the airlock they took off their cumbersome suits, leaving only helmets over their ordinary dress, and Maurice settled at the controls, bringing the motor to life and sending the car jolting over the rough desert.

The night seemed unending. Phobos rose in the

west, moving so quickly across the sky that Maurice fancied he could almost see it creeping against the starry background, but its light was feeble compared with terrestrial moonshine, and the dust-car was hemmed in by a wall of blackness. Twice they came across further clumps of growth, and Bruce set his lips, puzzling his brains to find some sort of an explanation. At last he took over the wheel once more, and eventually a sudden lightness in the east showed that sunrise was upon them.

Maurice groaned, and eased himself up in his seat. 'Phew! I'm darned sore,' he said, and wriggled painfully. 'Wish we'd brought a few cushions. How much further?'

'Not far,' said Bruce shortly. 'I can recognize those hills over there, I think, and Pickering's beyond them. Try a call, will you? I doubt if we're close enough yet, but it won't do any harm.'

Maurice switched on and called up, but as usual there was no response apart from the ever-present hiss, and for an hour or more they jerked their way along. The desert stretched to all sides of them, ochre-coloured in the light of the rising sun, but there were occasional clumps of vegetation too, and presently Bruce pointed ahead.

'Hallo,' he said. 'That's new. It looks almost like—like a wood.'

'You're seeing things,' grunted Maurice. 'Woods on Mars! You'll be imagining lakes and elephants next . . .' He paused. 'It's something, though.

Pickering Dome can't be far on the other side of it.'

'About four or five miles,' said Bruce. 'Keep on the radio, and see what you can do.'

Steadily they drew nearer to the dark mass ahead, and as they came up to it they could see that Bruce had not been far wrong when he described it as a "wood". There were no trees, it is true, but there were dozens of bush-like plants of the same type as those that they had seen earlier. For a moment Bruce paused as he looked for a path wide enough for the dust-car to pass through. Then he reduced speed, and the sunlight was partially cut off as they passed into the shade, the spidery branches whipping at the metal roof.

'It beats me,' breathed Maurice, pressing his face hard against the plastic window. 'Bruce, I believe Whitton must be at the bottom of it. This isn't like the ordinary Martian vegetation. If he's managed to hit on something new, there may be a chance yet!'

'I know,' said Bruce quietly. 'Miracles have happened, and with any luck this should be one of them. If only—'

He broke off with a shout. The ground ahead of them seemed to be crumbling away, and one of the bushes swayed violently, falling to one side like a tree that is being felled. Next moment the dust-car shuddered, and before Bruce could move there was a sickening lurch. Maurice cried out, and

clutched violently at the controls, but the car seemed to be falling, and there was a sudden darkness before they came to rest with a grinding jolt. Rubble pattered down on to the roof, and Maurice realized dimly that they had dropped into a deep pit.

CHAPTER XI

Out of Reach!

B
RUCE SPLUTTERED, and thrust Maurice to one side. The pattering had stopped, but there seemed to be something pressing against the windows, blocking out the light. The lurching and jolting had ceased, and the dust-car had come to rest.

‘What——’ gasped Maurice. ‘Steady on—you’re wrenching my helmet. Can you reach the light?’

Bruce managed to catch hold of the switch; the lamps winked on, and still half-dazed the two struggled up. The dust-car was tilted at a crazy angle, and the motors were silent, so that for one horrible moment Maurice imagined that they were buried deep in the loose, treacherous stuff that drifted across the surface of Mars. He caught Bruce’s arm.

‘How deep are we?’

‘Not very, I think,’ said Bruce quietly. ‘My guess is that the roots of this plant growth have loosened the ground in some way, so that it simply caved in under our weight. I’ll try and get out through the door.’

He swung the inner door of the airlock, but when

he tried the outer door he found that it was jammed shut so firmly that all his efforts to move it were futile. Maurice joined him, and the two pushed and panted, but without result. At last Bruce stepped back.

'No go,' he said. 'We can't get out that way.'

Maurice shuddered. 'How else?'

'I'll see if we can shift a bit,' said Bruce. 'There's always a chance, I suppose. Keep inside the airlock, and be ready to push against the door if it shows any sign of budging.'

He stumbled back into the driving seat, and pressed the starting button. Nothing happened, and he frowned angrily, staring at the control panel. Again he pressed, but the engines remained stubbornly silent.

Maurice choked, and tried to take a grip on himself. He hurled his body against the door, but it refused to yield an inch, and Bruce shook his head.

'You haven't a hope, old fellow. We're probably jammed right against the side of this confounded pit, and if so you'd need a crane to get us out. We'll have to give the car up as a bad job.'

'I wouldn't mind that so much,' muttered Maurice. 'We're not so far from Pickering, and we could walk it easily enough if only we could get out. I don't fancy staying shut up in a tin can like a couple of sardines.'

Bruce grunted. 'We're pretty lively sardines, at any rate. Even if we can't get out through the

door, we ought to be able to wriggle through the roof.'

'The roof?' echoed Maurice, staring up at the solid-looking metal.

'Yes. It'll unscrew, and if there's not too much dust covering it we should be all right,' said Bruce. 'Come on.'

Calmness was one of Bruce's strong points, and Maurice fought down his panic, feeling ashamed that he had come so near to losing his nerve. Skilfully Bruce undid the main supports, and after perhaps ten minutes he could feel the roof give at his touch. He pushed, and as the roof rose a bare inch from the sides of the car a stream of reddish dust showered into the cabin.

'Ready?' said Bruce. 'If we're too deep, it won't be pleasant.'

Maurice managed to grin. 'Pity we haven't brought a vacuum-cleaner to shovel up the muck. It's either that or staying here, so we've got to try.'

The two braced themselves against the roof, half-standing on the driving seat, and then straightened up suddenly, thrusting upwards with all their strength. For a second Maurice thought that the weight was too much, but then the pressure eased as the roof swung away, letting in a swirling mass of dust that struck their helmets and momentarily blinded them. When they had brushed the worst of it away, Maurice could not keep back a cry of relief. He could see the sky, and it was the

work of only a minute or so to scramble up the sloping sides of the pit on to the comparatively firm ground.

Bruce breathed hard, and lay back well clear of the hole. 'Ouf! That was a sticky one, and no mistake. The whole area must be as rotten as a rabbit-warren. We'd better get well clear; I don't want to have to do any more burrowing.'

'What about the car?' said Maurice foolishly, and pointed. 'It's over a dozen feet down.'

'I know, and we haven't a hope of getting it out. Lucky we're not far from Pickering Dome,' said Bruce. 'Are you all right to walk? If my position checks are as good as they ought to be, we've a three-mile hike in front of us.'

Maurice nodded, and turned away from the gaping pit. The sides were still crumbling, and it was clear that before long the dust-car would be hopelessly buried beneath the ochre material. Whether it would ever be dug up seemed extremely doubtful.

Bruce led the way westwards, and for some time they picked their way through the curious plants. Once Maurice leaped aside just in time to avoid falling into a hole that appeared close to his left foot, and once Bruce tripped and fell flat on his face, but otherwise there were no incidents, even though they were burdened with suits and helmets. It was a distinct relief when they came to the edge of the "wood". As they walked out on to the desert

beyond, Maurice turned and stared at the motionless, rather sinister bushes.

'If we'd had any sense, we'd have gone round instead of trying to plough through,' he said. 'Can you notice anything odd about those things?'

'The whole business seems odd to me,' said Bruce grimly. 'If I hadn't seen it myself, I wouldn't have believed it. What are you getting at?'

'Well, the bushes seem to be arranged in straight lines. They look almost as though they'd been planted like that on purpose.'

'Martian farmers?' said Bruce, and grinned. 'Little red men with tentacles and bulging eyes, I suppose? Who the dickens could have planted bushes or anything else?'

'There's only one man who could have done it—Professor Whitton,' said Maurice. 'He's a wizard with plants, don't forget, and he may have found some way to beat this beastly planet at its own game.'

Bruce looked thoughtful. 'You may be right. Well, we'll soon know—I hope.'

It was mid-morning now. The stars had faded, and even Deimos could no longer be seen, while Phobos had scurried below the horizon; the sky had brightened to its usual deepish blue, and in spite of everything Maurice could not help realizing that there was something strangely attractive about this world of Mars. It was "unearthly" in every sense of the word, but he knew that had things

gone according to plan he would in time have come to regard it as "home". He wondered absently what was happening back at Lowell Dome. Jackson and Mellor were too sensible to allow work to stop; probably the repair squads were already at work patching up the battered Dome Two, while Mellor was almost certainly busy making frantic efforts to save some of the equipment from the wrecked purifying machinery. What about Miroff? Was he dead, or was he somewhere in outer space? And what was Leslie Yorke doing, millions of miles away at Woomera?

"There it is," said Bruce suddenly. "Can you spot it? Over there, beyond the dust-hill. I'm dead sure it's the Dome. Try a call."

Maurice obeyed. "Hallo, Pickering. Hallo, Pickering. Can you hear us? We are about two miles to the west of you. Over."

The crackle increased as Maurice turned the volume control to maximum. Then there was a murmur, and they could make out the words: "... receiving you. Who . . ."

The voice faded, but Bruce and Maurice looked at each other in satisfaction.

"They're still alive, at any rate," said Bruce quietly. "To be honest, I wasn't too sure what we'd find. Was it Professor Whitton himself, do you think?"

"I think so. How many are there in the Dome, anyway?"

'Four,' said Bruce. 'At least, I hope so. Come on.'

He set off almost at a run, and Maurice was close behind him. Slowly Pickering Base came into view, and they could see that it was much smaller than any of the Lowell domes; it was single, and it seemed to be little larger than a tent, but it was undamaged. At last, when they were only a few hundred yards away, the airlock swung open and a tall figure stepped out. Despite the helmet, Maurice had no difficulty in recognizing Professor Charles Whitton.

Whitton waved cheerfully as the two came up. 'At long last,' he said. 'We've been waiting for you for months. How are things over at Lowell? And why the deuce are you walking, instead of ^{riding} like ordinary folk?'

'Haven't you heard?'

'My dear fellow, I haven't heard anything. I've been cooped up like a canary in a cage. The telegraph has been broken, it's quite impossible to get anything out of the wireless, and our only dust-car met with a mishap some time ago.' Whitton stopped suddenly, and peered. 'Upon my soul, Maurice Gray! I didn't even know that you had reached Mars.'

'I'm about starting to wish I hadn't,' said Maurice dryly. 'How much air have you got left, sir?'

Whitton laughed. 'I can assure you that we're not bothered about air. Didn't you see my pet plants? They're developing all the time, and two or three of them inside a dome work wonders.'

Maurice stammered. 'But—but I don't understand. Ever since the explosion at Lowell, they've been wondering what has happened to you, but nobody has the slightest idea that you're on the track of anything new.'

Whitton's expression changed suddenly. 'What's that? What are you talking about? I knew there had been some trouble, but surely it wasn't serious?'

Bruce explained quickly, and passed over Jackson's note. Whitton's breezy manner dropped from him like a mask, and he looked badly worried. 'Confound it, we can't talk properly while we're wearing these helmets. The air inside the Dome is fresh, at least.'

He led the way into the airlock, and Bruce and Maurice followed. In a few moments they were inside Pickering Base, being greeted by Whitton's companions; Wright and O'Ree of Woomera, and the German chemist Kurt von Eimar, whom they remembered well. The Dome itself was crowded with equipment, but what struck Maurice at once was that part of the plastic floor had been drawn away, exposing reddish dust out of which grew four or five of the spiky bushes. One of them was brown and withered, and Wright looked at it casually.

'Time to renew,' he said 'Can it wait for a bit, or shall I go out and see to it?'

'We can give it a few minutes. Three bushes will last us for an hour yet,' said Whitton wearily, and drew off his helmet. 'Why the blazes didn't someone

come over from Lowell weeks before now? We've been sitting here, wondering what was happening, but we couldn't do a thing.'

'There weren't any spare men, except for Miroff,' said Bruce. 'I suppose the General thought you'd get in touch with him as soon as you had anything to report. How much do you know?'

'We heard about the original bang. Jackson sent over a messenger, and I told him that I'd be better out here working away on my own; I'm no engineer, and nor are the rest of us, so we couldn't really be of much help. I knew that the oxygen stores would last for many months, and I had little doubt that David Mellor would get the purifier working again, so I wasn't particularly worried. Since then, there's been absolute silence.'

'But when you developed the plants——' began Bruce.

'I know what you're going to say. Let me finish. Our one and only dust-car sank into a pit, and it was out of the question to haul it up, which meant that we were completely out of touch. Infernal luck—there was no warning whatsoever.'

'It was a narrow escape,' said Von Eimar, in his perfect English. 'Am I right in thinking that the same misfortune happened to you two?'

'Yes, over by the wood.' Bruce stared blankly. 'Hang it all, though, your air is bound to give out sooner or later.'

Whitton shook his head. 'That's where you're

wrong, thank goodness. I won't try to explain the details, because they wouldn't mean much to you, but the four of us have managed to work out a way of persuading these confounded Martian plants to produce oxygen for us. Have you ever noticed the small, knobbly-looking patches of vegetation?" Maurice nodded, remembering his experience after Miroff had blasted away. "We all knew that they contained oxygen, but there was so little of it that it wasn't of any use. Well, what we've done is to develop the plants to at least five hundred times their natural size. It took a lot of time, but at last we've hit on the secret, or rather Kurt has."

Von Eimar gestured. "You are mainly responsible." "Whoever's responsible, we've succeeded," said Whitton, and pointed. "Look at those bushes. Four of them together will keep the air inside this dome fresh for a period of a couple of hours, but then they have to be renewed, so we simply take them outside, leave them to take root again, and bring in four more. Now that we've persuaded the things to breed, if you can talk about a plant breeding, it's even possible that we shall be able to give Mars a decent atmosphere. It is bound to take hundreds of years, but it can be done."

Bruce looked quickly at Maurice. "Who said that miracles couldn't happen? A few of these plants inside Lowell, and they'll be able to throw all their atomic purifiers on to the scrap-heap. You're a wizard, sir. If only we could get through to David!"

He paused. 'There isn't much time to spare, either. We're in for another hundred-mile walk, I'm afraid. Now that we haven't any dust-cars left, there's no way of getting over to Lowell except on foot.'

Maurice grinned ruefully. 'I'm stiff enough as things are, but I reckon they'll be glad to see us. What's the drill, sir? Do we just get everyone to come over here, or can we hump enough oxygen plants across the desert to restock the air inside the Domes?'

Neither Whitton nor Von Eimar replied, and Maurice realized suddenly that they were looking at each other in a strange way. He tensed.

'What is it, sir? Is anything wrong?'

Whitton stood up. 'How much reserve oxygen have you in your suits?'

'Enough for a few hours' walking, but I don't see that that matters now. Why?'

'I'll tell you,' said Whitton slowly, his face dead white. 'I'm afraid you don't understand the position, Maurice. These plants are short-lived, and they last for only an hour or two each, which means that they won't survive for a two-day walk across the desert. As soon as they're uprooted, they die within a few minutes, and a dead plant will produce no oxygen at all. We have no reserves left in our ordinary tanks, and there isn't a dust-car in workable order. Lowell Dome is as far out of our reach as though it were on the Moon.'

CHAPTER XII

A Desperate Journey

Maurice gasped. For a moment he did not understand the full meaning of what Whitton said, but then it struck home. They themselves were safe for the present, but Mellor and the party in Lowell Dome were in as much danger as ever.

'You must have got enough to re-stock one tank,' he heard Bruce saying. 'It doesn't take a lot, and we've sufficient for five or six hours' walking if we pool it—'

Von Eimar shook his head. 'It would take much longer than that to walk to Lowell, and you know it. Believe me, you would have no chance. We have no reserves at all; we had to use them all for our experiments.'

Bruce looked round desperately. 'Hang it, we could draw the oxygen off a whole lot of living plants, and store it somehow—'

'How? We haven't the equipment,' said Whitton bitterly, 'even if it could be done at all. We planned to make this a research base, a sort of advance post, and go back to Lowell whenever we wanted to use

the main laboratories. But once our dust-car had been lost, and we'd used up all our liquid oxygen, we had no choice but to stay where we were. By storing up what we can get from a living plant, we can stay outside for up to two hours, but no more. I've been waiting for someone to come across to ask how we were getting on.'

'The radio,' muttered Maurice suddenly. 'They may have got the Lowell receivers working again, and you must be able to get through sometimes, Violet Layer or no Violet Layer. If we could manage to talk to them for a few seconds, it'd be all right.'

Whitton looked at O'Ree. 'Still no result?'

'Even worse than usual, if possible,' growled O'Ree in his soft Irish brogue. 'I've yet to hear Lowell or anything else, and our transmitter is too low-powered to help much. During the last fortnight I haven't even worried myself listening out, as you know.'

There was a long silence. Then Whitton thrust his hands deep in his trouser pockets, and walked across the dome to the strange plants that meant life or death to them all.

'If only I had more time,' he said savagely. 'The trouble is that I'm creating a completely artificial growth, and so far I have no real idea of how to control it. It's bound to be short-lived, even though it develops so rapidly that there's no fear of our running out of supplies. One of these days we shall be able to produce something a great deal more

permanent, but that may be too late. How long can Lowell hold out?"

Bruce looked gloomy. 'A week or two at most, unless David can fix something. If they all started off for here within the next day or so I think they could manage to save enough oxygen to stock helmets for all of them, but after that they'll have too little left. We've got to signal them somehow. There must be some way!'

'What do you suggest?' asked Von Eimar. 'You think that the whole party at Lowell should come across to our small dome?'

'Why not? It'd be a crush, but at least there is enough air for everyone, provided that the plants don't give out.'

'There's no fear of that,' said Whitton. 'They're spreading all the time, outdoors as well as in, and as each bush dies three or four spring up in its place. O'Ree, get back to the radio, for goodness' sake, and go on calling up all tl. time on emergency procedure. If you get any sort of answer, tell Jackson and Mellor to evacuate Lowell as soon as they can and come over to us. How many dust-cars have they, by the way?'

'Two, I think,' said Bruce. 'Look here, let's check on our tanks. There may be a ghost of a chance, if we pool the lot.'

Maurice scrambled out of his suit and handed it over. Bruce checked the supplies, helped by Wright, and compared them with his own, after which he gave a wry grimace.

'No use,' said Wright quietly. 'Six hours' supply between the two of you. You could draw enough from the plants to last you the first two hours, so you'd have eight hours altogether, and you can't walk a hundred miles in that time. Sorry.'

'Let me think,' muttered Whitton. 'There's bound to be some answer, if only we can find it. If only these infernal bushes didn't stop producing oxygen the instant they're uprooted, it would be easy enough. You two had better get some sleep while you can, and the rest of us will try to puzzle out what can be done.'

Maurice laughed shortly. 'Sleep? Hang it all, I couldn't drop off if I tried.'

'I could,' said Bruce calmly, 'and it's the best thing to do, old fellow. We've been on the go for thirty hours at least, and if we try to stay awake much longer we shall simply collapse, which won't help anybody.'

Maurice realized suddenly that he was desperately tired, and he was too dazed to argue. Obediently he lay down, and as soon as he relaxed he fell into a deep sleep. Hours later he blinked his eyes open, to see O'Ree still sitting by the radio set while Whitton and Wright were making a close examination of the spiky bushes. Bruce and Von Eimar were nowhere to be seen.

'Anything yet?' muttered Maurice, yawning stupidly and hauling himself to his feet.

O'Ree shook his head. 'Hiss, hiss and nothing but

hiss. This planet is a radio man's nightmare,' he said helplessly. 'Can you take a turn?'

Maurice was only too willing, and for an hour or more he battled with the wireless, sending out calls and straining his ears for any sound of a reply. Presently Bruce and Von Eimar came in through the airlock, looking thoroughly depressed, and Maurice lifted his earphones.

'Been far?'

'Over to the launching bowl,' said Bruce shortly. 'We had some crazy idea of dismantling one of the test-rockets and fixing its motors to a pair of wheels, but it simply can't be done.'

Maurice stared. 'What do you mean? I didn't even know there was a launching bowl here.'

Von Eimar shrugged expressively. 'You can hardly call it a bowl. As you know, the old E.2 rocket made a poor landing, and only the upper part remains. We have one light "tester" used for taking samples of the upper air, but there is almost no fuel for it, and of course it cannot be guided. That is all.'

Whitton jumped up suddenly. 'Kurt! Kurt, I may be raving mad, but . . . Listen. What about the E.2?'

'It is still there, of course, but it could never blast off. You remember that it was dismantled—'

'Not entirely,' breathed Whitton. 'How much fuel has it? The upper step is still more or less intact, and it's just possible that it might be able to take off.'

Maurice looked at him sharply. 'I suppose I'm being dense, sir, but I don't get it.'

'Of course you don't, but you soon will,' rapped Whitton. 'One of our original rockets is still here, and the motors of the upper step are still in position. If we drain the high-altitude tester of every scrap of fuel, and put the lot into the tanks of the E.2, it's just possible that it might help to produce a burst of power sufficient for blast-away. I don't suppose the maximum height would be more than a mile, but if we could set the controls so that the general direction was correct we might be able to send a message to Lowell. They might easily see the rocket come down.'

Von Eimar shook his head. 'It is unlikely, as you must know. Without being piloted, we could not make sure of the right direction.'

'Without being piloted,' muttered Maurice. 'Do you suppose one of us could go in her?'

'Out of the question,' said Whitton curtly. 'Fuel is short, and there wouldn't be enough even for a crash-landing. No, we'd have to trust to blind luck, but at this stage of the game anything is worth trying. Kurt, can you go and see what can be done? I'll make some frantic calculations.'

Instinctively Bruce and Maurice stood up, and the German scientist nodded. 'Come by all means. I have no hopes, but we will see.'

Von Eimar had been correct in saying that the launching area was not a true bowl. It was simply

a rough pit, inside which lay the upper part of the original rocket. The body of the E.2 was intact, and Bruce climbed into the cabin, studying the various controls and indicators. Most had been dismantled, but at least the radar remained.

'She might fly for a bit, if the motors still work,' he said at last. 'How much fuel can we rake up?'

Von Eimar shrugged, and pointed across the pit to the slender body of a second rocket. Strictly speaking it was not a true rocket, but a pilotless missile; Bruce had seen plenty of them at Woomera. 'That I do not know as yet. Help me, please. We will lay a pipe, and pump the fuel across from the test rocket.'

The procedure was not difficult; all that had to be done was to connect the tanks of the E.2 with that of the tester, and simply force the liquid fuel across by means of foot-pumps. It took some time, but at last Von Eimar appeared to be satisfied, and he spent a further quarter of an hour checking the gauges. Then he nodded slowly.

'I think there is enough,' he said. 'If we strip the cabin of everything possible, to reduce the weight, there is no reason why the rocket should not blast off. Go to the dome, please, and ask Dr. Wright to join me. It will be best for him to make an examination of the motors.'

Maurice realized dimly that something was wrong. 'Hang it all, this is the upper step. It's atomic, isn't it? Liquid fuels—'

'The reserves,' said Bruce curtly. 'Every step has a liquid-fuel attachment, and that's what we'll have to trust. Come on.'

Maurice nodded, and the two walked back towards the airlock at the entrance to the Dome. Then he turned to Bruce, and gave a twisted grin.

'I know what you're thinking,' he said. 'It'd be a risk all right, but it might come off, and it's worth a try. If that tin crate will fly at all, we ought to be able to steer it somewhere in the direction of Lowell before we come down. Well, do we take the chance?'

Bruce nodded. 'Nothing else for it, short of leaving David and the others to manage on their own. We'd better hear what Whitton has to say about it.'

Whitton was still hard at work, but as the two came into the Dome he looked up from his papers. 'I want the fuel readings from the E.2,' he said shortly. 'It all depends on that. Have you got them?'

Bruce rattled off a string of figures, and Whitton noted them down, frowning as he did so. 'I see. Touch and go, as I'd expected. I shall be another half-hour yet, but I'll have the result before long.'

Wright went out to join Von Eimar in the launching bowl, while Maurice took over the radio from O'Ree. The minutes dragged by, but at last Whitton sat back in his chair and passed a hand in front of his eyes.

'I don't think there's much chance of my being wrong,' he said wearily. 'If the liquid-fuel motors

are in order, there is enough fuel to give one power-burst of twenty seconds, which will send the E.2 up to several miles, and another equal thrust before landing. We'll have to fix some kind of automatic device to make sure that the motors are switched on and off at the right moment, and frankly it's a long shot, but it can't do any harm.'

'What about the pilot?' said Bruce quietly.

Whitton shrugged. 'There can't be a human pilot, obviously, which makes things more difficult . . .' He broke off, and looked at the two sharply. 'I see. I might have known that you would produce some madcap scheme at the last moment. I wonder if you've any idea of the danger?'

'What would our chances be?' asked Maurice. He was frightened, and he was honest enough to admit it, but he managed to keep his voice steady.

'Less than one in ten. Let me explain.' Whitton leaned forward. 'The liquid-fuel motors in the upper step aren't meant to allow for blast-off, and if they falter even once the whole ship will simply drop back to the ground and break up. Remember, there would be only twenty seconds' running, and unless you judged the landing to a split second you'd hit the desert with such force that you'd be smashed to atoms. My original scheme was to cram the cabin with messages, and risk some of them being found in the wreck if we managed to land the rocket within range of Lowell. The one thing to be thankful for is that nothing can burn in the

open air, because of the lack of oxygen, so there's no fear of a blaze when the rocket comes down.'

O'Ree looked up from the radio. 'You're crazy,' he said explosively. 'You're not seriously suggesting going up in that thing?'

'What's the alternative?' said Bruce steadily. 'If we can't get through to Lowell, the whole lot of them are done for. That means we'll be the only men left on Mars, and how long do you think it'll be before we're found—if we ever are? No, I'd rather chance it. It's up to you, sir.'

Charles Whitton drummed his hand on his knee. 'If I say "yes", I'm almost certainly sending you both to your deaths. If I say "no", I'm robbing over twenty men at Lowell of their last hope,' he said bitterly. 'I'd go myself, but I'm a biologist, not an engineer. I wonder whether John Wright——'

Bruce shook his head. 'No, sir. If anyone tries it, it'd better be us. We're a lot younger than the rest of you,' he added with a grin, 'and we can probably think more quickly when it comes to the point.'

'I know. Confound it, you leave me no choice,' said Whitton, and reached for his helmet. 'I'll tell you what I'm prepared to do. We'll go out and strip the E.2 of every possible bit of surplus weight, and then I'll check all my calculations and see if there's any reasonable chance of your landing in one piece. If so—well, it's up to you. You'll need all your nerve, and a bit over.'

Maurice felt that he had very little nerve left, and even Bruce was conscious of what he called "butterflies in the tummy", but for the next few hours they were too busy to dwell upon what lay ahead. Leaving O'Ree to keep a radio watch, they attacked the E.2 and systematically ripped out everything that was not absolutely necessary. Shelves, struts and even the wireless transmitter were taken off; the iron strips used as clamps for the magnetic boots were pulled away, and all the couches. By the time they had finished, the cabin looked as though it had been visited by a swarm of locusts. Almost nothing was left apart from the central pillar and the main control panel, and Whitton was not satisfied until even the light frames to the plastic windows had been removed. Meanwhile Wright and Von Eimar had been working in the engine compartment, carrying out as thorough a check as could be done in the time.

'Well?' said Whitton finally, as the two scientists climbed back into the main cabin.

'Just about as much as you'd calculated,' said Von Eimar slowly. 'There seems to be slightly more reserve than we'd expected, so the burst might go on for thirty seconds, but certainly no more.' He looked hard at Bruce. 'Are you going alone?'

'Is there any way of managing without someone else to give the readings?' muttered Bruce. 'It seems idiotic for us both to try it—'

'I'm with you,' said Maurice thickly, though

his tongue seemed to be glued to the roof of his mouth. 'After all, I know the drill pretty well by this time.'

Whitton did not argue. 'If you've made up your minds, I'm not going to try to stop you,' he said harshly. 'It's better to make the attempt in daylight, so you'll have to blast off within the next couple of hours.'

Bruce looked upwards. 'Why not now? There's no reason to hang about, so far as I can see.'

'As you wish. Listen carefully, then,' said Whitton. 'Remember, you've only thirty seconds' running time, and you will have to save at least half that for the landing. As soon as you've enough height, which should be within fifteen seconds, turn the controls so that you head towards Lowell. Once you're at peak altitude, see whether you can catch sight of the Base, and guide your landing so that you come down as close to it as you possibly can. No point in your taking any plants; they'd only add weight, and they would be of no use, but the oxygen reserves in your own tanks will give you enough air to walk for a good many miles. The radar equipment is in good order, so far as I can tell, but with only a twenty-second burst before landing, if that, you'll have to judge it perfectly. Any questions?'

Bruce shook his head, and Maurice gazed silently across the Martian desert, wondering whether he was having his last sight of it.

'Right,' said Whitton. 'I'm not going to make a speech, but—well, good luck. If you're determined to blast away, the sooner you do it the better. Wait until I give you the signal.'

He stepped through the airlock, and Wright and Von Eimar followed him. Von Eimar paused in the entrance and opened his lips to say something, but changed his mind and simply shook his head. It took Bruce only a few seconds to fasten the doors, and then he settled down at the control panel, Maurice by his side.

'Feel scared?'

Maurice shuddered. 'I don't think I've ever been ~~so~~ frightened in my life, even when I was stuck in that beastly quicksand. Do we strap down as well as we can?'

'No. Remember, we won't reach any great speed,' said Bruce soberly. 'If we can give ourselves a kick hard enough to take us up to a mile or two, I'll be more than happy. You'll have to give me the readings the instant I want them. Can you see Whitton?'

Maurice squinted through the thick plastic window. 'He's waving "go ahead". Bruce, what—what chance have we got?'

'Precious little. If you want to get out, there's still time.'

'Don't talk like an idiot,' muttered Maurice. 'I'm ready.'

Bruce paused, and his hand hovered over the

controls. Maurice gripped the central pillar and wedged himself as firmly as he could, his eyes on the panel. His heart thumped against his ribs, and he swallowed hard as he saw Bruce's arm drop.

'Here we go,' said Bruce in a choked voice. 'This is it, old fellow. Fire!'

CHAPTER XIII

Crash-Landing

M^{AURICE} TENSED. From below came a deep whine, growing steadily to a roar, and the E.2 gave a sudden lurch as the upward thrust started to make itself felt. Automatically Maurice called out the readings of the dials, and began counting out loud. Ten seconds now, and still it seemed as though they had not left the launching pit. Twelve . . . fourteen . . . sixteen.

'Readings,' gasped Bruce, and Maurice replied. He could feel the pressure now, and he panted as he was thrust against the central pillar. Twenty seconds . . . twenty-two.

'Hold on,' roared Bruce, and handled the control attached to the outer vanes. There was a violent pitch, and Maurice grabbed out as the E.2 swung round. Bruce let out a grunt, and for a moment his hands dropped. Still the engines whined, nothingness. Maurice managed to struggle up, though and it seemed centuries before they died away to the cabin was swaying like a ship in a rough sea.

'How long?'

Bruce bit his lips. 'I've mucked it. We fired for

a full thirty seconds—I couldn't get at the controls,' he said desperately. 'We can't have more than a few seconds' firing time left. Maurice——'

'Stow it. We're not done yet,' choked Maurice. 'We're still going up—or are we?'

Bruce swung himself across to the window. 'Keep watching, for Heaven's sake. Altitude twenty-five miles, which is a lot more than we'd expected. If only this darned cabin would keep still for a moment!'

The lurching was becoming less, but even so it was difficult to make out a great deal. Bruce and Maurice crowded against the plastic, searching desperately for any landmark that might be recognizable, but for some time they could see nothing except for the monotonous ochre desert. Then Bruce pointed.

'Look there. That's the boundary of *Aeria*—you can see where the vegetation begins. Lowell must be beyond. We're heading the right way, but we've gone so high that we may overshoot by a hundred miles. Quick! The height register——'

'We're dropping fast,' breathed Maurice shakily. 'We'll have to land wherever we can. It won't be long.'

Bruce stumbled back to the control seat, and Maurice kept his eyes fixed on the dials. Eighteen miles now, and falling rapidly. Twelve miles. Ten. Eight. Seven.

'I'll leave it as late as I dare,' muttered Bruce. 'If I start firing when we're a mile up, and save

a bit of power till the last moment, we may come through—but I wouldn't bank on it. Readings!"

Maurice forced himself to be calm, though he felt the sweat standing out on his forehead. The height register showed only five miles now, and he knew that within a minute they would have landed, whether safely or otherwise. Again he called, and almost before he had finished the motors came to life again. Bruce counted silently, Maurice out loud, and after nine seconds Bruce cut the power. They were so low now that the height register had flickered back to zero.

"Get ready!" rapped Bruce. "Now!"

The motors screamed, faltered and stopped. Abruptly there was a jolt that felt like the blow of a giant hammer, and Maurice was hurled across the cabin, throwing out his arms in a futile attempt to check himself. Then he hit the wall, and for a moment he was knocked out.

When he opened his eyes, the E.2 was motionless. At least the air in the cabin was still breathable, but Bruce was lying crumpled up in a heap beside the pillar, and Maurice's heart sank. He scrambled across the cabin and lifted Bruce's head, wondering desperately whether he was still alive. Then he gasped with relief. Bruce was bleeding from a deep cut on the temple, and he was chalky white, but his breathing was deep and regular.

Maurice had had a good deal of medical training at Woomera, and he guessed at once where the

trouble lay. Bruce had hit his head hard against the panel, and it was almost certain that he was suffering from concussion, which meant that he might be unconscious for hours. There was a medical case fastened to the pillar, one of the few things that Whitton had not taken out, and Maurice lost no time in unfastening it and preparing an injection. The effect was immediate; Bruce relaxed, almost as though he were in a sound natural sleep.

Maurice swallowed hard. He felt sick and giddy, but otherwise he was unhurt, and now that they were back on solid ground most of his terror had left him. Where were they? Were they within walking range of Lowell, or were they as far from help as they had been before they started? Rapidly he slipped on his helmet, checked the oxygen supply, and unfastened the airlocks.

One glance showed him that the E.2 had made her last journey. The rocket had landed at a crazy angle, and the whole of the engine compartment was crushed and buckled, so that the motors were so much scrap-metal. To all sides stretched the patches of grey-green vegetation, but there was something else too. In the distance, right on the northern horizon, Maurice could see a range of low dust-hills. They were gentle and rounded, but hills of any description were rare except in the deserts, and Maurice's eyes narrowed. He remembered that there were hills only a few miles from Lowell Dome, and it was just possible that these were the same.

He racked his brains. If he fixed a helmet over Bruce's head, the oxygen supply would last for some hours. The thought of leaving his friend alone and unconscious was not pleasant, but what was the alternative? If they stayed where they were, there was little hope of their being found before their oxygen was used up, and there was no time to wait for Bruce to come to his senses. Maurice gritted his teeth, and made up his mind. It would have to be done; if the hills were indeed those near the Dome, there was a chance that rescue would come before it was too late.

He thrust back into the cabin, and wrote a hasty note: 'Gone for help. Stay where you are,' propping it up against the control panel. Then he made Bruce as comfortable as he could, took a last look round the tilted cabin, and slipped into his protective suit. There were several hours of daylight left, but even the afternoons on Mars were bitterly cold, and it was well worth while to carry the extra weight.

He checked once more. He had oxygen enough for three hours, which meant that with luck he could cover from ten to fifteen miles; but if he failed to find the Dome at the first attempt, or if the range of hills proved not to be the correct one, there was nothing more that he could do. There would certainly be no hope of getting back to the E.2. Once he had started, he would have to go on.

He needed all his courage now, and he knew it,

but the longer he waited the less chance he would have. Setting his lips, he clambered through the airlocks, made sure that they were firmly fastened, and set off across the wilderness. After only a few minutes, the E.2 had dwindled into a tiny speck against the mixture of ochre and green; he was on his own now, and nobody could help him except himself.

Maurice made for the highest of the distant hills. He was too sensible to run, even though he was fuming with impatience; if he used all his energy at once, he would never be able to keep going for several hours on end, and moreover he would use more oxygen than he could afford. He forced himself to walk at a constant, swinging pace, searching all the time for some sign of a feature which he could recognize. After perhaps a quarter of an hour he paused, and looked back. He could barely make out the rocket now, even though he was little more than a mile from it, but the hills seemed as far away as ever.

He walked doggedly on. Slowly the hills seemed to rise ahead of him, but already the oxygen register showed that he had used up an appreciable part of his supply. Was it best to climb the hill and risk the quicksands, in the hope of getting a sight of the Dome, or should he plough through the valley and search for the tell-tale cable on the far side? By the time he had reached the bottom of the slope, he knew that there was no choice.

He had used half his oxygen, and there was no time to get to the Dome, even if he could find out where it was. He himself might manage, but Bruce would be dead long before a rescue party could reach the stranded E.2. The last hope was to climb the hill and call with his radio, making full use of the extra range given by his altitude. If the Dome were near enough, he might be heard.

Fortunately the dust seemed to be comfortably solid, but as Maurice stumbled upwards his heart pounded as though about to burst. He had lost all count of time now; every few moments he looked down at his oxygen register, and each time the indicator seemed to have crept closer to the fatal "empty", but he was too dazed to feel any fear. At last he reached the upper ridge, and threw himself flat, fighting to recover his breath. Still he could see no trace of the cable or of the cluster of domes; the E.2 was below the horizon, and all Mars seemed to be deathly still.

Maurice switched on his radio, and winced at the deafening crackle. 'Hallo, Lowell. Hallo, Lowell. Maurice Gray calling from the high peak to your north. I am short of oxygen. Talbot is in rocket several miles to the north of me. You must reach us within an hour. If you can hear me, prepare to leave Lowell and go to Pickering Dome, where there is plenty of oxygen. Repeat, leave Lowell and go to Pickering Dome.' He paused, and then added: 'I shall go on transmitting this

message as long as I can. Hallo, Lowell. Hallo, Lowell . . .'

He had sent out the message perhaps a dozen times before he heard a sound that made him tense. It was a voice—faint and unsteady, but recognizable. He strained his ears, every nerve alert, and managed to make out:

' . . . where you are. We are coming. Message . . .' The voice faded, and then swelled again: ' . . . continue transmitting. We should be . . .'

The crackle drowned the rest of the words, but Maurice staggered to his feet, staring round him. He had been right, then! Lowell Dome was near at hand, but to try to reach it would be sheer folly. All he could do was to stay where he was, and hope that the rescuers would be in time. He had half an hour's oxygen left, and by cutting down his supply he might spin it out to forty minutes, but certainly not more.

The seconds passed. Maurice heard himself shouting into the microphone, repeating his message again and again: 'Leave Lowell and make for Pickering Dome. Whitton has developed oxygen plants, but cannot reach you. Leave Lowell!' but still he could see nothing except for the barren waste that was Mars. At last he heard a reply, stronger and closer this time:

'Approaching from the south. Sending up signal rocket. Watch.'

Maurice stared. Then he saw it—a flash in the

sky, leaving a trail of white smoke, and almost at the same moment he caught sight of a tiny, ant-like body far away across the plain. Instinctively he turned and plunged off down the slope, breaking into a clumsy run and panting desperately as he cut his oxygen supply to the barest minimum. Even now he was not out of danger.

Once he stumbled and fell, and as he staggered onwards again he was dimly conscious of a pain in his ankle, but he could no longer think clearly. Even the order 'Stay where you are. We can see you!' meant very little, and it was almost in a daze that he felt himself gripped and hauled through the airlock of a dust-car. He blinked, and saw Mellor's tall form at the wheel.

'Where's Bruce?' rapped Mellor. 'Beyond the range?'

Maurice gulped. 'Yes. Hurry. He's hurt, and he can't have much air left——'

Even while he was speaking, Mellor sent the dust-car racing across the wilderness at a speed that made it jolt and rock. Jackson and Knight were there too, but the roar of the motors made speech impossible except by shouting, and Maurice was far too spent to try. Instead he pointed in the direction of the E.2, and Mellor nodded grimly. Maurice looked at his watch, and bit his lips. It would be touch and go.

Then he saw the rocket, still lying half on its side with its airlocks closed. Mellor caught sight

of it too, and the dust-car lurched crazily as they roared on at maximum speed. It seemed an age before they jerked to a halt, but Mellor was through the airlocks within a matter of seconds. Maurice went to follow, but Jackson pulled him back.

'Better not,' he said gently. 'You've had about as much as you can stand. It's not as though you could do anything to help.'

Maurice gulped. He felt horribly weak, but although he could see the wisdom of Jackson's advice he felt that the suspense was more than he could bear. Knight clambered out through the lock, dragging a portable helmet with him, and time seemed to stand still.

The door swung open, and Maurice turned, his lips working. 'David! Is he—is he all right?'

Mellor breathed hard. 'Thanks to you, yes. We got here just in time. All right,' he added quietly, putting his hand on Maurice's shoulder. 'You needn't worry. He's in no danger now—but another quarter of an hour, and we should have been too late.'

CHAPTER XIV

The "Man of Mars"

BRUCE TALBOT fingered the bandage that covered most of his head, and gave a grunt of pain. Maurice, sitting next to him in the dust-car, gave an unfeeling chuckle.

'Still sore?'

'Wow! I'll say,' said Bruce feelingly. 'I must have caught myself a tremendous whack when we came down like that. Doesn't seem only three weeks ago, does it?'

'It seems more like three years,' said Maurice, and brought the car to a halt. 'A good deal's happened since then, remember. Wasn't there something called the Great Trek that we used to learn about at school, when a whole race of people left their old homes and marched off to new ones? I'll bet it wasn't so frantic as the trek from Lowell to Pickering.'

Bruce grinned. 'We were lucky, anyway; we didn't have to walk. Well, the sooner we get that new dome blown up the better I'll be pleased. Pickering is all very well, but it was built for five men, not thirty. There's no room to stretch your legs without kicking someone.'

'It won't be for much longer,' said Maurice cheerfully, his eyes on the distant body of Pickering Dome. There were clumps of bushes growing round it now; Whitton's oxygen-plants were spreading rapidly, and even though it would take hundreds of years to give Mars a breathable air, a beginning had at least been made. 'When I had a chat with David, just before I came off duty, he said that the pumping would start within a couple of days, so we'll have a lot more elbow-room before the end of the month. Thank goodness there's no danger now of our running short of oxygen.' He paused, and looked suddenly serious. 'You know, I can't help wondering about Miroff. Do you suppose he's still alive?'

Bruce shrugged. 'How should I know? He may be, but as soon as we manage to get through to Woomera I imagine that Jackson will see that he gets a pretty hot reception. At any rate, we shan't see him again.'

'I'm not sorry,' commented Maurice. 'Look, we'd better get going if we're aiming to drive to the bush-forest and back before evening. The General will bellow like a bull if we don't bring him those specimens he wants.'

'Let him bellow,' said Bruce, and grinned. 'We've plenty of time—now. Do you reckon it's all been worth while, Maurice?'

Maurice nodded, staring out at the ochre desert, the scattered plants and the graceful, man-made Dome. Earth was far away, but in spite of everything he did not regret having become "a man of Mars".